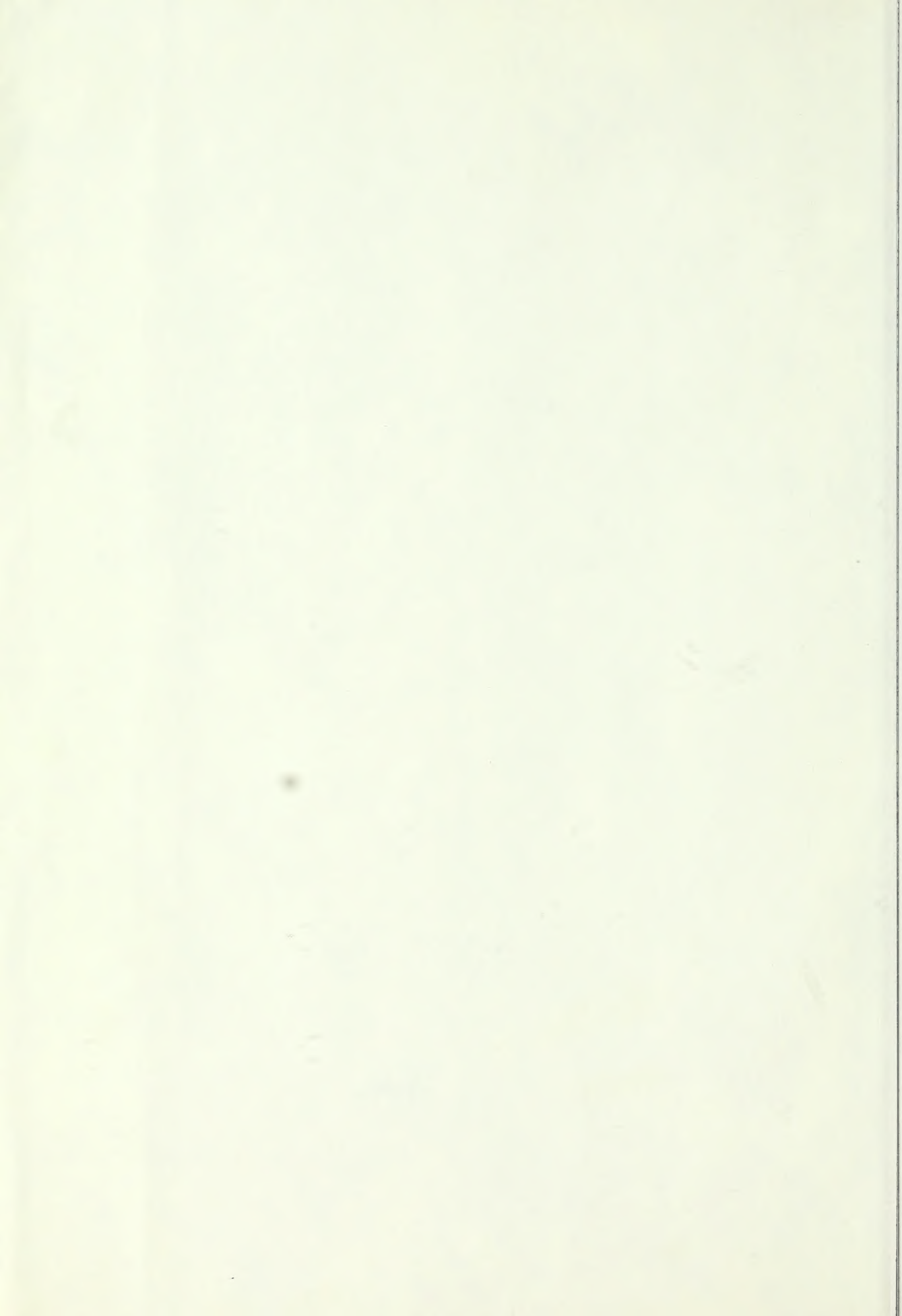


PUBLIC DOCUMENTS
DEPOSITORY ITEM

JUL 22 1983

COLUMBIA
LIBRARY





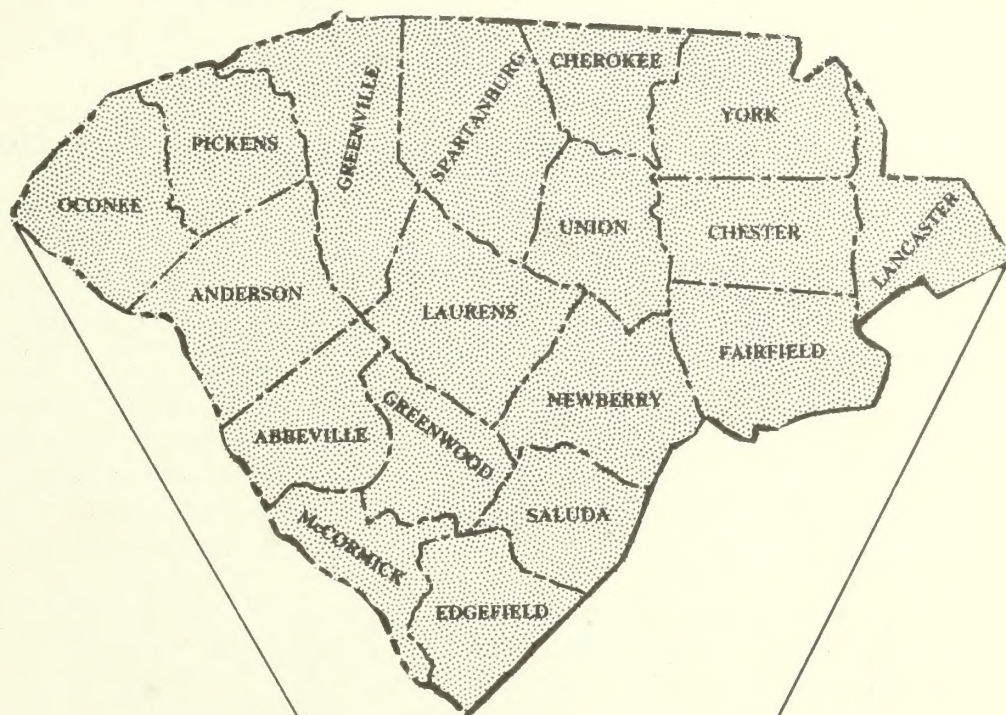
Digitized by the Internet Archive
in 2013

<http://archive.org/details/resourcebulletin4560sout>

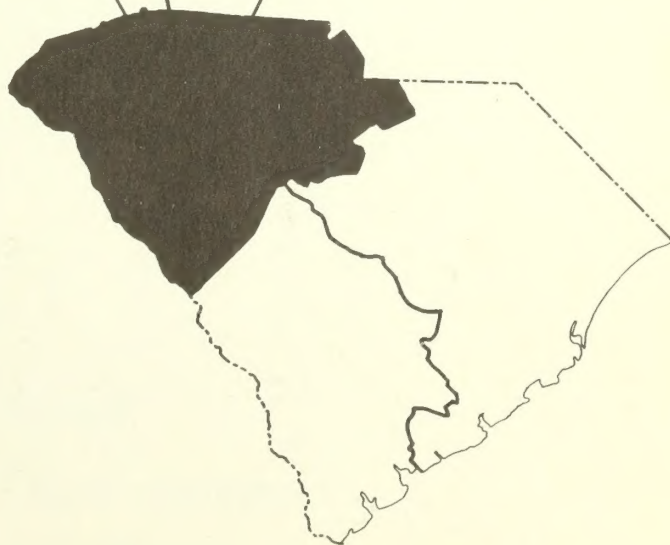


U.S. Department of Agriculture

Forest Service Resource Bulletin SE-45



Forest Statistics
for the
Piedmont of
South Carolina
1977



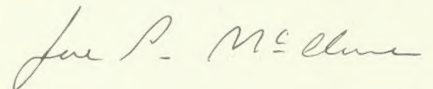
FOREWORD

This report highlights the principal findings of the fifth inventory of the timber resource in the Piedmont of South Carolina. The inventory was started in April 1977 and completed in September 1977. Four previous inventories, completed in 1936, 1947, 1958, and 1967, provide statistics for measuring changes and trends over the past 41 years. In this report, the primary emphasis is on the changes and trends since 1967. Previously reported figures have been adjusted to provide the best estimate of change.

Forest Resources Research, now Renewable Resources Evaluation, authorized by the McSweeney-McNary Forest Research Act of 1928, as amended, and by the Forest and Rangeland Renewable Resources Planning Act of 1974, is a continuing, nationwide undertaking by the regional experiment stations of the Forest Service, U.S. Department of Agriculture. In Florida, Georgia, North Carolina, South Carolina, and Virginia, Renewable Resources Evaluation is administered through the Southeastern Forest Experiment Station, with headquarters in Asheville, North Carolina. The objective of the statewide timber inventories is to periodically measure and evaluate the timber resources. These inventories provide information on the extent and condition of the forest lands, volume of timber, and rates of timber growth and removals. These data and evaluations help provide a basis for the formulation of forest policies and programs and the orderly development and use of the resources.

The 18-county area covered by this report is one of three survey units in South Carolina. Comparable reports for the other two units will be issued as the Statewide inventory progresses. When completed, a final State report will present an in-depth analysis on the timber resource for all of South Carolina.

The Southeastern Station gratefully acknowledges the cooperation and assistance provided by the South Carolina Division of Forestry. Appreciation is also expressed for the excellent cooperation of other public agencies, forest industry, and private landowners in providing information and access to the sample locations.



JOE P. McCLURE
Project Leader

March 1978

Southeastern Forest Experiment Station
Asheville, North Carolina

Forest Statistics
for the
Piedmont of South Carolina

by

Nolan L. Snyder, Associate Mensurationist

CONTENTS

	<u>Page</u>
HIGHLIGHTS	1
HOW THE FOREST SURVEY IS MADE	3
RELIABILITY OF THE DATA	4
DEFINITIONS OF TERMS	6
COUNTY TABLES	
1. Area, by land class	13
2. Area of commercial forest land, by ownership class	14
3. Area of commercial forest land, by forest-type group	15
4. Area of commercial forest land, by stand-size class	16
5. Area of commercial forest land, by site class	16
6. Area of commercial forest land, by stocking classes of growing-stock trees	17
7. Volume of sawtimber and growing stock on commercial forest land, by species group	18
8. Net annual growth of sawtimber and growing stock on commercial forest land, by species group	19
9. Annual removals of sawtimber and growing stock on commercial forest land, by species group	20
UNIT TABLES	
10. Area of commercial forest land, by forest type and ownership class	21
11. Area of commercial forest land, by ownership and stocking classes of growing-stock trees	21
12. Volume of timber on commercial forest land, by class and species group	22
13. Number of growing-stock trees on commercial forest land, by species and diameter class	23
14. Volume of all live trees on commercial forest land, by species and diameter class	24
15. Volume of growing stock on commercial forest land, by species and diameter class	25
16. Volume of sawtimber on commercial forest land, by species and diameter class	26
17. Net annual growth and removals of growing stock on commercial forest land, by species	27
18. Net annual growth and removals of sawtimber on commercial forest land, by species	27
19. Mortality of growing stock and sawtimber on commercial forest land, by species	28
20. Volume of all live trees and growing stock on commercial forest land, by ownership class and species group	29
21. Volume of sawtimber on commercial forest land, by ownership class and species group	29
22. Net annual growth and removals of growing stock on commercial forest land, by ownership class and species group	30
23. Net annual growth and removals of sawtimber on commercial forest land, by ownership class and species group	30
24. Average net volume per acre of sawtimber, growing stock, and other live timber on commercial forest land, by ownership class, major forest type, and species group	31
25. Land area, by class, major forest type, and survey completion date	32
26. Volume of sawtimber, growing stock, and all live timber on commercial forest land, by species group, diameter class, and survey completion date	33

HIGHLIGHTS

Since 1967 in the South Carolina Piedmont—

—area of commercial forest land has increased by 49,000 acres, or by only 1 percent. Some 91,000 acres of commercial forest were diverted to other land uses, while 140,000 acres of new forest were added. About 55 percent of the diversion was to urban development and water use, and the remaining 45 percent to agriculture and noncommercial forest. Ninety-two percent of the land added to forest had been used for agriculture. Commercial forests now occupy 4.5 million acres, or 66 percent of the total land in this 18-county area.

—area of commercial forest land owned by forest industry has increased by 76,000 acres, or by 15 percent, and now totals 596,000 acres. Public holdings have increased by 16,000 acres, or 4 percent, and now total 429,000 acres. Together, farmers and other private nonindustrial landowners possess over 3.5 million acres, or 77 percent of the commercial forest acreage. While size of holding was not determined, one-third of this acreage is broken into distinguishable stands or conditions less than 10 acres in size.

—about 48 percent of the land now classified as commercial forest has been treated or significantly disturbed. Almost 707,000 acres were harvested and nearly 751,000 acres have undergone intermediate cutting. More than 31 percent of the harvesting and 62 percent of the artificial reforestation occurred on lands now owned or leased by forest industries. Less than 7 percent of the intermediate cutting occurred on these industry lands. Of the acres harvested, 143,000 were subsequently artificially regenerated. Altogether, nearly 213,000 acres were artificially reforested. An additional 377,000 acres were disturbed by fire, insects, disease, weather, and other destructive agents.

—area occupied by sawtimber stands has increased by 27 percent. Pole-timber stands have increased in area by 6 percent. There was a decrease in sapling-seedling stands by 382,500 acres, or by 26 percent. Stands 40 or more years old comprise 27 percent of the total acreage in softwood types, and 51 percent of the total acreage in hardwood types.

—area of commercial forest land in pine type has decreased by 5 percent. Over 412,000 acres of pine were harvested, and only 53 percent, or 220,000 acres, remained in pine types. Areas that experienced intermediate cuttings accounted for 17 percent of the decrease in pine type, while almost 118,000 acres reverted to hardwood types due to natural succession.

—average basal area of all live trees 5.0 inches d.b.h. and larger has increased from 51 to 70 square feet per acre of commercial forest land. Despite the increase in average basal area—1 out of every 8 acres—some 547,000 acres of commercial forest land are still either nonstocked or poorly stocked. Consistent with the declines in sapling-seedling stands and pine forest type, the number of softwood saplings decreased by 15 percent. The number of hardwood saplings continued to increase.

—volume of softwood growing stock has increased from 2.3 to nearly 3.4 billion cubic feet, or by 45 percent. Loblolly pine, the predominant softwood species, has almost doubled in volume, and accounted for nearly 80 percent of the increase. An additional 19 percent of the increase was in shortleaf pine and Virginia pine species. The softwood volume increase occurred across all diameter classes. The current inventory of softwood growing stock includes 10.1 billion board feet of sawtimber, 59 percent more than in 1967.

—volume of hardwood growing stock has increased from 1.9 to 2.6 billion cubic feet, or by 37 percent. Yellow-poplar, sweetgum, and the oaks accounted for more than three-fourths of this increase, with red oak being the most abundant hardwood species in the area. Again, substantial gains were recorded across all diameter classes. The current inventory of hardwood growing stock includes 6.8 billion board feet of sawtimber, up by 44 percent.

In 1976—

—net annual growth of growing stock averaged almost 83 cubic feet per acre of commercial forest land—a record high for an entire Survey Unit in the Southeast. This rapid growth rate is largely attributed to the development of young, well-stocked pine stands established on extensive areas of cropland retired between 1940 and the early sixties. Based on the age distribution of all stands and a 20 percent reduction in the number of 2- and 4-inch pine trees, it will be difficult to sustain this high rate of growth without an increase in the rate of regeneration. Altogether, net growth totaled 374 million cubic feet and included 1,242 million board feet of sawtimber. Softwoods accounted for two-thirds of this growth.

—removals of growing stock totaled 171 million cubic feet, which was less than one-half of the net growth. Net growth exceeded removals across all ownership classes. Seventy-five percent of the growing-stock removals were softwood, while nearly 43 percent of the total removals came from miscellaneous privately owned forests. Removal of all species included 573 million board feet of sawtimber.

—mortality of growing stock totaled 43 million cubic feet and reduced gross growth by 10 percent. Insects, disease, and suppression were the leading identifiable causes of death. Softwoods accounted for nearly 71 percent of the mortality. Total mortality included 103 million board feet of sawtimber.

HOW THE FOREST SURVEY IS MADE

The method of survey is essentially a sampling procedure designed to provide reliable statistics primarily at the State and Survey Unit levels. Individual county statistics are presented so that any combination of counties may be added together until the total is large enough to meet the desired degree of reliability. The basic steps of the survey procedure were as follows:

1. Initial estimates of forest and nonforest areas were based on the classification of 23,831 sample clusters systematically spaced on the latest aerial photographs available. A subsample of 1,614 of the 16-point clusters was ground checked and a linear regression was fitted to the data to develop the relationship between the photo and ground classification of the subsample. This procedure provides a means for adjusting the initial estimates of area for change in land use since date of photography and for photo misclassifications.

2. Estimates of timber volume and forest classifications were based on measurements recorded at 1,019 ground sample locations systematically distributed within the commercial forest land. A 10-point cluster of plots, measured with a basal area factor of 37.5 square feet per acre, was systematically spaced on an acre at each of these sample locations. Trees less than 5 inches d.b.h. were tallied on a portion of the fixed-radius plots around the point centers.

3. Equations prepared from detailed measurements collected on standing trees in the Piedmont Region of South Carolina, and similar measurements taken throughout the Southeast, were used to compute the volumes of individual tally trees. A mirror caliper and sectional aluminum poles were used to obtain the additional measurements on standing trees required to construct the volume equations.

4. Felled trees were measured at 31 active cutting operations. These data will be pooled with similar measurements taken in the State to supplement the standing tree-volume study and to generate utilization factors for product and species groups that will be analyzed at the State level.

5. Estimates of growth, removals, and mortality were determined from the remeasurement of 1,080 permanent sample plots which were established in the fourth survey.

6. Ownership information was collected from local contacts, correspondence, and public records. In those counties where the sample missed a particular ownership class, temporary sample plots were added and measured to describe the forest conditions within the ownership class.

7. All field data were sent to Asheville for editing and were punched into cards and stored on magnetic tape for machine computing, sorting, and tabulation. Final estimates were based on statistical summaries of the data.

RELIABILITY OF THE DATA

Statistical analysis of these data indicates the following sampling errors in terms of one standard error (two times out of three):

	<u>Percent</u>
Per million acres of commercial forest land - - - - -	0.49
Per billion cubic feet of growing stock - - - - -	5.53
Per billion cubic feet of net annual growth - - - - -	1.46
Per billion cubic feet of annual removals - - - - -	2.59

*SAMPLING ERRORS FOR COUNTY AND UNIT TOTALS,¹ IN TERMS OF
ONE STANDARD ERROR*

COUNTY	COMMERCIAL FOREST AREA	CUBIC-FOOT VOLUME OF GROWING STOCK		
		INVENTORY	GROWTH	REMOVALS
- - - - - <i>SAMPLING ERROR</i> ² - - - - -				
ABBEVILLE	2.86	11.29	8.99	28.46
ANDERSON	2.51	7.49	10.01	28.46
CHEROKEE	3.33	12.27	13.45	35.36
CHESTER	1.87	9.55	8.95	31.78
EDGEFIELD	2.44	8.31	9.36	22.99
FAIRFIELD	0.79	7.71	6.23	20.73
GREENVILLE	1.95	6.91	10.87	26.95
GREENWOOD	2.04	12.78	10.61	24.96
LANCASTER	1.44	11.24	13.32	24.50
LAURENS	1.64	8.97	9.90	23.40
MCCORMICK	1.58	9.95	8.77	22.96
NEWBERRY	1.44	6.84	8.08	18.48
OCONEE	1.92	6.95	10.45	29.71
PICKENS	1.75	9.73	9.85	23.87
SALUDA	2.32	12.00	12.59	23.70
SPARTANBURG	2.11	9.88	9.53	33.09
UNION	1.22	8.78	9.14	23.95
YORK	3.25	9.55	9.74	30.96
UNIT TOTAL	0.49	2.25	2.37	6.25

¹ SAMPLING ERROR OF BREAKDOWNS OF COUNTY AND UNIT TOTALS
MAY BE COMPUTED WITH THE FOLLOWING FORMULA:

$$E = \frac{(SE) \sqrt{(\text{SPECIFIED VOLUME OR AREA})}}{\sqrt{(\text{VOLUME OR AREA TOTAL IN QUESTION})}}$$

WHERE: E - SAMPLING ERROR OF THE VOLUME OR AREA TOTAL IN
QUESTION.

SE - SPECIFIED SAMPLING ERROR IN TABLE.

² BY RANDOM-SAMPLING FORMULA (IN PERCENT).

DEFINITIONS OF TERMS

Acceptable trees.--Growing-stock trees of commercial species that meet specified standards of size and quality, but not qualifying as desirable trees.

Basal area.--The area in square feet of the cross section at breast height of a single tree or of all the trees in a stand, usually expressed as square feet of basal area per acre.

Commercial forest land.--Forest land producing or capable of producing crops of industrial wood and not withdrawn from timber utilization.

Commercial species.--Tree species presently or prospectively suitable for industrial wood products.

Cropland.--Land under cultivation within the past 24 months, including orchards and land in soil-improving crops, but excluding land cultivated in developing improved pasture. Also includes idle farmland.

Desirable trees.--Growing-stock trees of commercial species having no serious defects in quality limiting present or prospective use for timber products, of relatively high vigor, and containing no pathogens that may result in death or serious deterioration before rotation age.

Diameter class.--A classification of trees based on diameter outside bark, measured at breast height ($4\frac{1}{2}$ feet above the ground). D.b.h. is the common abbreviation for "diameter at breast height." Two-inch diameter classes are commonly used in Forest Survey, with the even inch the approximate midpoint for a class. For example, the 6-inch class includes trees 5.0 through 6.9 inches d.b.h., inclusive.

Farm.--Either a place operated as a unit of 10 or more acres from which the sale of agricultural products totaled \$50 or more annually, or a place operated as a unit of less than 10 acres from which the sale of agricultural products for the year amounted to at least \$250.

Farm operator.--A person who operates a farm, either doing the work himself or directly supervising the work.

Farmer-owned lands.--Lands owned by farm operators.

Forest industry lands.--Lands owned by companies or individuals operating wood-using plants.

Forest land.--Land at least 16.7 percent stocked by forest trees of any size, or formerly having had such tree cover, and not currently developed for nonforest use.

Forest type.--A classification of forest land based upon the species forming a plurality of live-tree stocking.

Longleaf-slash pine.--Forests in which longleaf or slash pine, singly or in combination, comprises a plurality of the stocking. (Common associates include oak, hickory, and gum.)

Loblolly-shortleaf pine.--Forests in which loblolly pine, shortleaf pine, or other southern yellow pines, except longleaf or slash pine, singly or in combination, comprise a plurality of the stocking. (Common associates include oak, hickory, and gum.)

Oak-pine.--Forests in which hardwoods (usually upland oaks) comprise a plurality of the stocking but in which pines comprise 25 to 50 percent of the stocking. (Common associates include gum, hickory, and yellow-poplar.)

Oak-hickory.--Forests in which upland oaks or hickory, singly or in combination, comprise a plurality of the stocking, except where pines comprise 25 to 50 percent, in which case the stand would be classified oak-pine. (Common associates include yellow-poplar, elm, maple, and black walnut.)

Oak-gum-cypress.--Bottomland forests in which tupelo, blackgum, sweetgum, oaks, or southern cypress, singly or in combination, comprises a plurality of the stocking, except where pines comprise 25 to 50 percent, in which case the stand would be classified oak-pine. (Common associates include cottonwood, willow, ash, elm, hackberry, and maple.)

Elm-ash-cottonwood.--Forests in which elm, ash, or cottonwood, singly or in combination, comprises a plurality of the stocking. (Common associates include willow, sycamore, beech, and maple.)

Gross growth.--Annual increase in net volume of trees in the absence of cutting and mortality.

Growing-stock trees.--Live trees of commercial species qualifying as desirable or acceptable trees.

Growing-stock volume.--Net volume in cubic feet of growing-stock trees 5.0 inches d.b.h. and over from a 1-foot stump to a minimum 4.0-inch top diameter outside bark of the central stem, or to the point where the central stem breaks into limbs. (Net volume in primary forks is included.)

Hardwoods.--Dicotyledonous trees, usually broad-leaved and deciduous.

Soft hardwoods.--Soft-textured hardwoods such as boxelder, red and silver maple, buckeye, hackberry, loblolly-bay, silverbell (in mountains), butternut, sweetgum, yellow-poplar, cucumbertree, magnolia, sweetbay, water tupelo, blackgum, sycamore, cottonwood, black cherry, willow, basswood, and elm.

Hard hardwoods.--Hard-textured hardwoods such as Florida and sugar maple, birch, hickory, dogwood, persimmon (forest grown), beech, ash, honeylocust, holly, black walnut, mulberry, all commercial oaks, and black locust.

Idle farmland.--Includes former croplands, orchards, improved pastures and farm sites not tended within the past 2 years, and presently less than 16.7 percent stocked with trees.

Improved pasture.--Land currently improved for grazing by cultivation, seeding, irrigation, or clearing of trees or brush.

Industrial wood.--All roundwood products except fuelwood.

Land area.--The area of dry land and land temporarily or partly covered by water such as marshes, swamps, and river flood plains (omitting tidal flats below mean high tide); streams, sloughs, estuaries, and canals less than 1/8 of a statute mile in width; and lakes, reservoirs, and ponds less than 40 acres in area.

Logging residues.--The unused portions of trees cut or killed by logging.

Miscellaneous Federal lands.--Federal lands other than National Forests, lands administered by the Bureau of Land Management, and Indian lands.

Miscellaneous private lands - corporate.--Lands owned by private corporations other than forest industry.

Miscellaneous private lands - individual.--Privately owned lands other than forest-industry, farmer-owned, or corporate lands.

Mortality.--Number or sound-wood volume of live trees dying from natural causes during a specified period.

National Forest land.--Federal lands which have been legally designated as National Forests or purchase units, and other lands under the administration of the Forest Service, including experimental areas and Bankhead-Jones Title III lands.

Net annual growth.--The increase in volume for a specific year.

Net volume.--Gross volume less deductions for rot, sweep, or other defect affecting use for timber products.

Noncommercial forest land.--(a) Unproductive forest land incapable of yielding crops of industrial wood because of adverse site conditions, and (b) productive-reserved forest land.

Noncommercial species.--Tree species of typically small size, poor form, or inferior quality which normally do not develop into trees suitable for industrial wood products.

Nonforest land.--Land that has never supported forests and lands formerly forested where timber management is precluded by development for other uses.

Nonstocked land.--Commercial forest land less than 16.7 percent stocked with growing-stock trees.

Other Federal lands.--Federal lands other than National Forests, including lands administered by the Bureau of Land Management, Bureau of Indian Affairs, and other Federal agencies.

Other public lands.--Publicly owned lands other than National Forests.

Overstocked areas.--Areas where growth of trees is significantly reduced by excessive numbers of trees.

Poletimber trees.--Growing-stock trees of commercial species at least 5.0 inches in d.b.h. but smaller than sawtimber size.

Productive-reserved forest land.--Forest land sufficiently productive to qualify as commercial forest land, but withdrawn from timber utilization through statute or administrative designation.

Rangeland.--Land on which the natural plant cover is composed principally of native grasses, forbs, or shrubs valuable for forage.

Rotten trees.--Live trees of commercial species that do not contain at least one 12-foot saw log, or two noncontiguous saw logs, each 8 feet or longer, now or prospectively, primarily because of rot or missing sections, and with less than one-third of the gross tree volume in sound material.

Rough trees.--(a) Live trees of commercial species that do not contain at least one 12-foot saw log, or two noncontiguous saw logs, each 8 feet or longer, now or prospectively, primarily because of roughness, poor form, splits, and cracks, and with less than one-third of the gross tree volume in sound material; and (b) all live trees of noncommercial species.

Salvable dead trees.--Standing or down dead trees that are considered merchantable by Forest Survey standards.

Saplings.--Live trees 1.0 to 5.0 inches in diameter at breast height.

Saw log.--A log meeting minimum standards of diameter, length, and defect, including logs at least 8 feet long, sound and straight, and with a minimum diameter inside bark for softwoods of 6 inches (8 inches for hardwoods).

Saw-log portion.--That part of the bole of sawtimber trees between the stump and the saw-log top.

Saw-log top.--The point on the bole of sawtimber trees above which a saw log cannot be produced. The minimum saw-log top is 7.0 inches d.o.b. for softwoods and 9.0 inches d.o.b. for hardwoods.

Sawtimber trees.--Live trees of commercial species containing at least a 12-foot saw log, or two noncontiguous saw logs, each 8 feet or longer, and with at least one-third of the gross board-foot volume between the 1-foot stump and minimum saw-log top being sound. Softwoods must be at least 9.0 inches and hardwoods at least 11.0 inches in diameter at breast height.

Sawtimber volume.--Net volume of the saw-log portion of live sawtimber in board-foot International 1/4-inch rule.

Seedlings.--Live trees less than 1.0 inch in diameter at breast height that are expected to survive and develop.

Site class.--A classification of forest land in terms of inherent capacity to grow crops of industrial wood based on fully stocked natural stands.

Class 1.--Sites capable of producing 165 or more cubic feet per acre annually.

Class 2.--Sites capable of producing 120 to 165 cubic feet per acre annually.

Class 3.--Sites capable of producing 85 to 120 cubic feet per acre annually.

Class 4.--Sites capable of producing 50 to 85 cubic feet per acre annually.

Class 5.--Sites incapable of producing 50 cubic feet per acre annually, but excluding unproductive sites.

Softwoods.--Coniferous trees, usually evergreen, having needles or scale-like leaves.

Pines.--Yellow pine species which include loblolly, longleaf, slash, shortleaf, pitch, Virginia, Table-Mountain, sand, and spruce pine.

Other softwoods.--White pine, hemlock, cypress, eastern redcedar, white-cedar, spruce, and fir.

Stand-size class.--A classification of forest land based on the size class of growing-stock trees on the area.

Sawtimber stands.--Stands at least 16.7 percent stocked with growing-stock trees, with half or more of total stocking in sawtimber or poletimber trees, and with sawtimber stocking at least equal to poletimber stocking.

Poletimber stands.--Stands at least 16.7 percent stocked with growing-stock trees of which half or more of this stocking is in poletimber and sawtimber trees, and with poletimber stocking exceeding that of sawtimber.

Sapling-seedling stands.--Stands at least 16.7 percent stocked with growing-stock trees of which more than half of the stocking is saplings and seedlings.

State, county, and municipal lands.--Lands owned by States, counties, and local public agencies or municipalities, or lands leased to these governmental units for 50 years or more.

Stocking.--The degree of occupancy of land by trees, measured by basal area or the number of trees in a stand and spacing in the stand, compared to a minimum standard, depending on tree size, to fully utilize the growth potential of the land. (See page 12.)

Timber removals.--The net volume of growing-stock trees removed from the inventory by harvesting; cultural operations, such as stand improvement; land clearing, or changes in land use.

Unproductive forest land.--Forest land incapable of producing 20 cubic feet per acre of industrial wood under natural conditions, because of adverse site conditions.

Upper-stem portion.--That part of the main stem or fork of sawtimber trees above the saw-log top to a minimum top diameter of 4.0 inches outside bark or to the point where the main stem or fork breaks into limbs.

Urban and other areas.--Areas within the legal boundaries of cities and towns; suburban areas developed for residential, industrial, or recreational purposes; school yards; cemeteries; roads; railroads; airports; beaches; powerlines and other rights-of-way; or other nonforest land not included in any other specified land use class.

STOCKING STANDARD

D.B.H. CLASS	MINIMUM NUMBER OF TREES PER ACRE FOR FULL STOCKING	MINIMUM BASAL AREA PER ACRE FOR FULL STOCKING	PERCENT STOCKING ASSIGNED EACH TALLY TREE ¹
SEEDLINGS	600	--	5.0
2	560	--	5.4
4	460	--	6.5
6	340	67	5.8
8	240	84	4.8
10	155	85	4.3
12	115	90	4.0
14	90	96	3.8
16	72	101	3.7
18	60	106	3.5
20	51	111	3.5

¹ TREES LESS THAN 5.0 INCHES D.B.H. WERE TALLIED ON A 10-POINT CLUSTER OF CIRCULAR, 1/300-ACRE PLOTS AT EACH SAMPLE LOCATION. TREES 5.0 INCHES D.B.H. AND LARGER WERE TALLIED ON A 10-POINT CLUSTER OF VARIABLE PLOTS USING A BASAL AREA FACTOR OF 37.5 AT EACH SAMPLE LOCATION.

OVERSTOCKED--OVER 130 PERCENT

FULLY STOCKED--100-130 PERCENT

MEDIUM STOCKED--60-99 PERCENT

POORLY STOCKED--16.7-59 PERCENT

NONSTOCKED--LESS THAN 16.7 PERCENT

CUBIC FEET OF WOOD PER AVERAGE CORD (EXCLUDING BARK)

D.B.H. CLASS	ALL SPECIES	PINE	OTHER SOFTWOOD	HARDWOOD
6	60.6	61.0	68.2	60.0
8	68.4	68.1	76.0	68.4
10	73.3	73.1	81.4	73.4
12	76.6	76.7	85.2	76.4
14	79.0	79.4	88.2	78.4
16	80.7	81.6	90.4	79.8
18	81.8	83.3	92.3	80.8
20	82.6	84.8	93.8	81.5
22	83.5	86.0	95.1	82.1
24+	84.3	88.0	97.1	83.2
AVERAGE	73.0	72.6	80.2	73.3

COUNTY TABLES

THE COUNTY TABLES ARE INTENDED FOR USE IN COMPILING FOREST RESOURCE ESTIMATES FOR GROUPS OF COUNTIES. BECAUSE THE SAMPLING PROCEDURE USED BY THE FOREST SURVEY WAS INTENDED PRIMARILY TO FURNISH INVENTORY DATA FOR THE SURVEY UNIT AS A WHOLE, INDIVIDUAL COUNTY ESTIMATES HAVE LIMITED AND VARIABLE ACCURACY. AS COUNTY TOTALS ARE BROKEN DOWN BY VARIOUS SUBDIVISIONS, THE POSSIBILITY OF ERROR INCREASES AND IS GREATEST FOR THE SMALLEST ITEMS. THE ORDER OF THIS INCREASE CAN BE COMPUTED WITH THE FORMULA ON PAGE 5.

TABLE 1. --AREA, BY LAND CLASS AND COUNTY, 1977

COUNTY	ALL LAND ¹	FOREST LAND				NONFOREST LAND ²
		TOTAL	COMMERCIAL FOREST	UNPRODUCTIVE FOREST	PRODUCTIVE-RESERVED	
-- -- -- -- -- ACRES -- -- -- -- --						
ABBEVILLE	325,249	220,533	219,883	---	650	104,716
ANDERSON	477,332	208,201	208,201	---	--	269,131
CHEROKEE	252,781	155,752	154,802	--	950	97,029
CHESTER	374,532	290,814	290,619	--	195	83,718
EDGEFIELD	308,297	234,637	234,637	--	--	73,660
FAIRFIELD	442,192	386,015	386,015	--	--	56,177
GREENVILLE	508,208	299,821	278,448	---	21,373	208,387
GREENWOOD	289,866	206,286	205,672	---	614	83,580
LANCASTER	322,050	235,933	235,604	--	329	86,117
LAURENS	456,691	305,701	305,701	--	---	150,990
MCCORMICK	244,090	207,036	206,778	--	258	37,054
NEWBERRY	407,824	315,829	315,829	--	---	91,995
OCONEE	399,670	284,580	280,294	---	4,286	115,090
PICKENS	320,775	214,980	209,464	--	5,516	105,795
SALUDA	286,161	187,758	187,758	---	--	98,403
SPARTANBURG	531,182	271,268	271,227	--	41	259,914
UNION	329,600	272,386	272,352	--	34	57,214
YORK	440,887	269,252	264,752	---	4,500	171,635
TOTAL	6,717,387	4,566,782	4,528,036	--	38,746	2,150,605

¹ FROM U. S. BUREAU OF THE CENSUS, LAND AND WATER AREA OF THE UNITED STATES, 1970.

² INCLUDES 73,608 ACRES OF WATER ACCORDING TO SURVEY STANDARDS OF AREA CLASSIFICATION BUT DEFINED BY THE BUREAU OF THE CENSUS AS LAND.

TABLE 2. -- AREA OF COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND COUNTY, 1977

COUNTY	ALL OWNERSHIPS	OWNERSHIP CLASS							MISCELLANEOUS PRIVATE	
		NATIONAL FOREST	MISCELLANEOUS FEDERAL	STATE	COUNTY AND MUNICIPAL	FOREST INDUSTRY ¹	FARMER	CORPORATE		INDIVIDUAL
					ACRES					
ABBEVILLE	219,883	18,437	1,056	--	272	56,392	68,663	22,556		52,507
ANDERSON	208,201	--	6,998	6,063	343	7,260	101,319	35,558		50,660
CHEROKEE	154,802	--	--	--	88	11,668	91,767	10,652		40,627
CHESTER	290,619	11,082	--	340	617	47,818	105,650	43,746		81,366
EDGEFIELD	234,637	29,462	--	--	235	50,711	62,695	5,331		86,203
FAIRFIELD	386,015	12,748	--	3,000	60	83,194	101,377	14,087		171,549
GREENVILLE	278,448	--	--	41	2,539	6,895	136,655	37,714		94,604
GREENWOOD	205,672	7,896	--	710	1,379	30,949	71,293	17,961		75,484
LANCASTER	235,604	--	--	194	318	28,905	64,399	45,191		96,597
LAURENS	305,701	19,663	--	944	1,123	56,331	144,252	17,813		65,575
MCCORMICK	206,778	50,782	26,400	922	597	41,883	35,314	3,799		47,081
NEWBERRY	315,829	55,231	--	--	599	54,836	102,520	9,445		93,198
OCONEE	280,294	74,125	5,378	--	2,127	1,919	63,407	58,880		72,465
PICKENS	209,464	--	818	2,993	65	1,638	43,710	61,635		91,793
SALUDA	187,758	2,531	--	9,805	196	29,160	82,442	23,049		50,380
SPARTANBURG	271,227	--	--	6,131	2,065	19,543	119,041	14,555		109,892
UNION	272,352	56,749	--	90	83	48,227	59,631	9,995		97,577
YORK	264,752	--	--	4,682	790	20,048	118,911	36,274		84,047
TOTAL	4,528,036	338,706	40,650	35,915	13,496	596,377	1,573,046	468,241		1,461,605

¹ NOT INCLUDING 31,759 ACRES OF FARMER-OWNED AND MISCELLANEOUS PRIVATE LANDS LEASED TO FOREST INDUSTRY.

TABLE 3. -- AREA OF COMMERCIAL FOREST LAND, BY FOREST-TYPE GROUP AND COUNTY, 1977

COUNTY	ALL TYPE GROUPS	FOREST-TYPE GROUP								MAPLE-BEECH-BIRCH
		WHITE PINE-HEMLOCK	SPRUCE-FIR	LONGLEAF-SLASH	LOBLOLLY-SHORTLEAF	OAK-PINE	OAK-HICKORY	OAK-GUM-CYPRESS	ELM-ASH-COTTONWOOD	
					ACRES					
ABBEVILLE	219,883	--	--	--	83,725	59,758	66,095	--	10,305	--
ANDERSON	208,201	--	--	--	68,758	42,948	81,297	--	15,198	--
CHEROKEE	154,802	--	--	--	68,310	23,762	62,730	--	--	--
CHESTER	290,619	--	--	--	191,915	34,720	55,235	--	8,749	--
EDGEFIELD	234,637	--	--	--	120,854	27,429	83,899	--	2,455	--
FAIRFIELD	386,015	--	--	--	280,058	46,896	50,951	--	8,110	--
GREENVILLE	278,448	--	--	--	74,509	26,278	177,661	--	--	--
GREENWOOD	205,672	--	--	--	118,256	41,936	32,899	--	12,581	--
LANCASTER	235,604	--	--	--	88,245	41,398	105,961	--	--	--
LAURENS	305,701	--	--	--	155,697	40,093	100,418	--	9,493	--
MCCORMICK	206,778	--	--	--	133,851	24,393	42,892	--	5,642	--
NEWBERRY	315,829	--	--	--	213,696	32,619	48,679	--	20,835	--
OCONEE	280,294	4,632	--	--	100,365	65,593	109,704	--	--	--
PICKENS	209,464	8,742	--	--	46,321	34,969	119,432	--	--	--
SALUDA	187,758	--	--	4,580	113,490	22,901	46,787	--	--	--
SPARTANBURG	271,227	--	--	--	127,896	54,271	79,903	--	9,157	--
UNION	272,352	--	--	--	122,984	27,209	104,965	--	17,194	--
YORK	264,752	--	--	--	128,969	26,427	100,548	--	8,808	--
TOTAL	4,528,036	13,374	--	4,580	2,237,899	673,600	1,470,056	--	128,527	--

TABLE 4. -- AREA OF COMMERCIAL FOREST LAND, BY STAND-SIZE CLASS AND COUNTY, 1977

COUNTY	ALL STANDS	STAND-SIZE CLASS			NONSTOCKED AREAS
		SAWTIMBER	POLETIMBER	SAPLING-SEEDLING	
- - - - - ACRES - - - - -					
ABBEVILLE	219,883	34,539	103,649	81,695	--
ANDERSON	208,201	96,590	96,639	14,972	--
CHEROKEE	154,802	28,132	70,007	52,293	4,370
CHESTER	290,619	70,004	112,248	108,367	--
EDGEFIELD	234,637	100,648	55,849	78,140	--
FAIRFIELD	386,015	129,871	160,962	91,127	4,055
GREENVILLE	278,448	127,837	110,372	40,239	--
GREENWOOD	205,672	79,901	44,499	73,535	7,737
LANCASTER	235,604	56,839	86,923	85,345	6,497
LAURENS	305,701	92,864	134,091	78,746	--
MCCORMICK	206,778	108,141	52,204	46,433	--
NEWBERRY	315,829	159,789	117,858	34,755	3,427
OCONEE	280,294	124,346	104,481	51,467	--
PICKENS	209,464	99,962	61,354	48,148	--
SALUDA	187,758	76,373	73,905	37,480	--
SPARTANBURG	271,227	88,388	123,835	54,426	4,578
UNION	272,352	107,979	102,403	61,970	--
YORK	264,752	61,937	144,374	58,441	--
TOTAL	4,528,036	1,644,140	1,755,653	1,097,579	30,664

TABLE 5. -- AREA OF COMMERCIAL FOREST LAND, BY SITE CLASS AND COUNTY, 1977

COUNTY	ALL CLASSES	SITE CLASS				
		1	2	3	4	5
- - - - - ACRES - - - - -						
ABBEVILLE	219,883	-	-	27,031	161,648	31,204
ANDERSON	208,201	-	-	40,528	162,607	5,066
CHEROKEE	154,802	-	-	17,480	131,655	5,667
CHESTER	290,619	-	-	23,519	250,196	16,904
EDGEFIELD	234,637	2,455	-	44,278	168,312	19,592
FAIRFIELD	386,015	-	-	44,013	292,106	49,896
GREENVILLE	278,448	-	-	95,574	167,109	15,765
GREENWOOD	205,672	-	4,194	52,413	140,679	8,386
LANCASTER	235,604	-	-	15,697	182,914	36,993
LAURENS	305,701	-	6,555	51,411	232,748	14,987
MCCORMICK	206,778	-	-	46,762	138,333	21,683
NEWBERRY	315,829	-	-	79,951	226,616	9,262
OCONEE	280,294	4,529	9,266	23,564	146,714	96,221
PICKENS	209,464	-	-	24,747	145,378	39,339
SALUDA	187,758	-	-	47,492	135,686	4,580
SPARTANBURG	271,227	-	9,156	44,447	179,442	38,182
UNION	272,352	-	5,421	57,935	187,223	21,773
YORK	264,752	4,405	-	35,234	181,069	44,044
TOTAL	4,528,036	11,389	34,592	772,076	3,230,435	479,544

TABLE 6. --AREA OF COMMERCIAL FOREST LAND, BY STOCKING CLASSES OF GROWING-STOCK TREES, BY COUNTY, 1977

COUNTY	ALL CLASSES	STOCKING PERCENTAGE ¹				
		OVER 130	100-130	60-99	16.7-59	LESS THAN 16.7
- - - - - ACRES - - - - -						
ABBEVILLE	219,883	4,039	82,804	118,562	14,478	--
ANDERSON	208,201	5,162	121,866	60,566	20,607	--
CHEROKEE	154,802	--	52,295	63,178	34,959	4,370
CHESTER	290,619	5,977	142,223	117,902	24,517	--
EDGEFIELD	234,637	--	73,362	129,927	31,348	--
FAIRFIELD	386,015	--	164,072	180,247	37,641	4,055
GREENVILLE	278,448	5,256	57,816	180,354	35,022	--
GREENWOOD	205,672	12,580	86,984	81,598	16,773	7,737
LANCASTER	235,604	9,200	87,258	117,940	14,709	6,497
LAURENS	305,701	4,697	142,631	140,889	17,484	--
MCCORMICK	206,778	--	91,668	95,772	19,338	--
NEWBERRY	315,829	26,094	151,669	98,592	36,047	3,427
OCONEE	280,294	--	50,028	149,675	80,591	--
PICKENS	209,464	2,079	50,598	134,401	22,386	--
SALUDA	187,758	18,796	90,393	69,129	9,440	--
SPARTANBURG	271,227	4,578	118,739	116,530	26,802	4,578
UNION	272,352	7,671	116,801	108,677	39,203	--
YORK	264,752	4,405	88,008	137,104	35,235	--
TOTAL	4,528,036	110,534	1,769,215	2,101,043	516,580	30,664

¹ SEE STOCKING STANDARDS ON PAGE 12.

TABLE 7. - 10,000 OF SAWTIMBER AND GROWING STOCK ON COMMERCIAL FOREST LAND, BY SPECIES GROUP AND COUNTY, 1971

COUNTY	SAWTIMBER					GROWING STOCK				
	ALL SPECIES	PINE	OTHER	SOFTWOOD	HARDWOOD	ALL SPECIES	PINE	OTHER	SOFTWOOD	HARDWOOD
ABBEVILLE	689,320	302,384	5,793	215,406	165,737	257,180	97,983	5,283	75,864	78,050
ANDERSON	779,065	314,192	8,373	195,176	263,324	307,461	127,964	2,173	59,239	118,095
CHESTER	354,100	196,010	1,706	44,428	111,956	158,699	77,552	659	19,937	60,451
EDGECFIELD	730,848	460,387	4,120	106,134	160,207	293,323	178,026	4,544	48,852	61,901
FAIRFELD	1,433,246	1,154,416	2,854	170,579	105,397	399,078	292,359	4,906	60,151	45,662
GREENVILLE	1,107,055	884,473	3,638	120,162	96,752	415,502	300,493	4,420	58,189	52,100
GREENWOOD	989,120	291,772	8,690	235,140	453,511	386,597	132,725	1,954	89,732	162,186
LAURENS	1,217,978	888,031	2,046	127,076	150,511	335,712	239,568	1,031	57,530	47,583
LANCASTER	1,037,430	224,025	7,352	127,076	158,239	400,295	113,089	4,252	51,712	66,895
MCCORMICK	1,109,470	549,711	5,080	229,196	253,443	337,948	200,243	5,307	94,032	100,122
NEWBERRY	1,721,735	1,324,929	14,874	112,941	107,894	304,906	217,507	2,907	40,832	43,650
OCONEE	308,038	409,753	122,351	78,630	171,590	542,065	389,359	8,182	72,637	71,287
PICKENS	899,504	705,268	24,371	204,954	297,314	341,284	164,855	23,867	29,707	122,855
SAVANNAH	931,578	445,925	1,294	46,650	145,232	271,733	63,125	6,057	61,543	141,008
SPARTANBURG	1,104,002	478,154	6,953	186,205	292,495	300,222	220,633	2,291	27,848	51,274
UNION	664,710	239,866	4,657	287,101	334,090	364,137	178,026	2,211	62,282	121,348
YORK				227,277	191,227	310,705	126,666	4,615	79,878	99,546
TOTAL	16,980,187	9,905,998	236,653	2,992,787	3,844,749	6,003,659	3,288,117	81,096	1,072,731	1,561,715

* FACTORS FOR CONVERTING TO CORDS ARE SHOWN ON PAGE 12.

TABLE 8. --NET ANNUAL GROWTH OF SAWTIMBER AND GROWING STOCK ON COMMERCIAL FOREST LAND, BY SPECIES GROUP AND COUNTY, 1976

COUNTY	SAWTIMBER				GROWING STOCK					
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
				</						

TABLE 10. --AREA OF COMMERCIAL FOREST LAND, BY FOREST TYPE AND OWNERSHIP CLASS, 1977

FOREST TYPE	ALL OWNERSHIPS	OWNERSHIP CLASS				
		NATIONAL FOREST	OTHER PUBLIC	FOREST INDUSTRY	FARMER	MISC. PRIVATE
- - - - - ACRES - - - - -						
SOFTWOOD TYPES:						
WHITE PINE-HEMLOCK	13,374	4,632	--	--	--	8,742
SPRUCE-FIR	--	--	--	--	--	--
LONGLEAF PINE	--	--	--	--	--	--
SLASH PINE	4,580	--	--	--	4,580	--
LOBLOLLY PINE	1,435,852	158,717	30,935	304,080	354,036	588,084
SHORTLEAF PINE	598,929	31,539	20,660	53,926	225,636	267,168
VIRGINIA PINE	178,021	4,632	--	3,613	90,148	79,628
SAND PINE	--	--	--	--	--	--
EASTERN REDCEDAR	20,464	--	--	2,864	17,600	--
POND PINE	--	--	--	--	--	--
SPRUCE PINE	--	--	--	--	--	--
PITCH PINE	4,633	4,633	--	--	--	--
TABLE-MOUNTAIN PINE	--	--	--	--	--	--
TOTAL	2,255,853	204,153	51,595	364,483	692,000	943,622
HARDWOOD TYPES:						
OAK-PINE	673,600	44,906	5,995	57,538	278,545	286,616
OAK-HICKORY	1,465,651	75,441	32,471	147,122	574,784	635,833
CHESTNUT OAK	4,405	--	--	--	--	4,405
SOUTHERN SCRUB OAK	--	--	--	--	--	--
OAK-GUM-CYPRESS	--	--	--	--	--	--
ELM-ASH-COTTONWOOD	128,527	14,206	--	27,234	27,717	59,370
MAPLE-BEECH-BIRCH	--	--	--	--	--	--
TOTAL	2,272,183	134,553	38,466	231,894	881,046	986,224
ALL TYPES	4,528,036	338,706	90,061	596,377	1,573,046	1,929,846

TABLE 11. --AREA OF COMMERCIAL FOREST LAND, BY OWNERSHIP AND STOCKING CLASSES OF GROWING-STOCK TREES, 1977

OWNERSHIP CLASSES	ALL CLASSES	STOCKING PERCENTAGE ¹				
		OVER 130	100-130	60-99	16.7-59	LESS THAN 16.7
- - - - - ACRES - - - - -						
NATIONAL FOREST	338,706	--	149,313	152,150	37,243	--
OTHER PUBLIC	90,061	878	41,477	37,768	16,938	--
FOREST INDUSTRY	596,377	22,344	308,199	223,233	31,437	11,164
FARMER	1,573,046	22,051	570,004	767,017	200,426	13,548
MISC. PRIVATE	1,929,846	65,261	700,222	927,875	230,536	5,952
ALL OWNERSHIPS	4,528,036	110,534	1,769,215	2,101,043	516,580	30,664

¹ SEE STOCKING STANDARDS ON PAGE 12.

TABLE 12. --VOLUME OF TIMBER ON COMMERCIAL FOREST LAND, BY CLASS AND SPECIES GROUP, 1977

CLASS OF TIMBER	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
- - - - - THOUSAND CUBIC FEET - - - - -					
SAWTIMBER TREES:					
SAW-LOG PORTION	3,279,325	1,904,050	40,706	555,009	779,560
UPPER-STEM PORTION	499,535	262,105	5,604	96,410	135,416
TOTAL	3,778,860	2,166,155	46,310	651,419	914,976
POLETIMBER TREES					
ALL GROWING-STOCK TREES	2,224,799	1,121,962	34,786	421,312	646,739
	6,003,659	3,288,117	81,096	1,072,731	1,561,715
ROUGH TREES:					
SAWTIMBER-SIZE TREES	205,432	36,453	1,270	69,307	98,402
POLETIMBER-SIZE TREES	375,945	53,092	2,838	128,323	191,692
TOTAL	581,377	89,545	4,108	197,630	290,094
ROTTEN TREES:					
SAWTIMBER-SIZE TREES	29,305	556	212	10,535	18,002
POLETIMBER-SIZE TREES	4,565	--	--	1,903	2,662
TOTAL	33,870	556	212	12,438	20,664
SALVABLE DEAD TREES:					
SAWTIMBER-SIZE TREES	3,967	3,781	186	--	--
POLETIMBER-SIZE TREES	3,568	3,491	77	--	--
TOTAL	7,535	7,272	263	--	--
TOTAL, ALL TIMBER	6,626,441	3,385,490	85,679	1,282,799	1,872,473

TABLE 13. --NUMBER OF GROWING-STOCK TREES ON COMMERCIAL FOREST LAND, BY SPECIES AND DIAMETER CLASS, 1977

SPECIES	ALL CLASSES	DIAMETER CLASS (INCHES AT BREAST HEIGHT)											21.0-28.9	29.0 AND LARGER
		5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9					
-- THOUSAND TREES														
SOFTWOOD:														
LONGLEAF PINE	249	126	46	35	--	17	25	--	--	--	--	--	--	--
SLASH PINE	1,157	739	385	33	--	--	--	--	--	--	--	--	--	--
SHORTLEAF PINE	130,831	61,671	38,911	18,416	7,814	2,636	998	323	38	24	24	--	--	--
LOBLOLLY PINE	227,454	91,116	60,539	35,963	20,208	10,775	5,416	2,167	759	484	27	--	--	--
POND PINE	--	--	--	--	--	--	--	--	--	--	--	--	--	--
VIRGINIA PINE	35,157	15,838	9,887	5,631	2,393	1,015	234	131	15	13	--	--	--	--
PITCH PINE	660	123	174	152	156	23	11	21	--	--	--	--	--	--
TABLE-MOUNTAIN PINE	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SPRUCE PINE	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SAND PINE	--	--	--	--	--	--	--	--	--	--	--	--	--	--
EASTERN WHITE PINE	708	--	198	87	96	83	75	51	24	86	8	--	--	--
EASTERN HEMLOCK	605	256	149	70	65	32	12	--	--	21	--	--	--	--
SPRUCE AND FIR	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BALDOCYPRESS	--	--	--	--	--	--	--	--	--	--	--	--	--	--
POND CYPRESS	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CEDARS	12,992	8,512	2,875	1,185	317	17	37	20	23	6	--	--	--	--
TOTAL SOFTWOODS	409,813	178,381	113,164	61,572	31,049	14,598	6,808	2,713	859	634	35	--	--	--
HARDWOOD:														
SELECT WHITE OAKS	34,251	13,508	8,295	5,581	2,990	1,924	1,126	409	187	208	23	--	--	--
SELECT RED OAKS	8,612	3,069	1,702	1,407	1,042	654	398	203	62	68	7	--	--	--
CHESTNUT OAK	4,322	1,221	941	962	572	290	150	116	8	26	--	--	--	--
OTHER WHITE OAKS	10,858	5,648	2,056	1,380	1,111	403	128	64	36	26	6	--	--	--
OTHER RED OAKS	56,765	23,166	14,147	8,064	5,465	2,738	1,645	779	374	344	43	--	--	--
HICKORY	20,766	9,073	5,446	2,371	1,791	1,029	528	256	153	110	9	--	--	--
YELLOW BIRCH	--	--	--	--	--	--	--	--	--	--	--	--	--	--
HARD MAPLE	716	391	39	213	22	28	11	--	7	5	--	--	--	--
SOFT MAPLE	11,128	4,906	2,642	1,783	836	455	250	97	90	63	6	--	--	--
BEECH	1,566	335	324	255	318	99	34	38	16	84	3	--	--	--
SWEETGUM	49,561	24,655	12,126	5,782	3,323	1,647	927	663	248	177	13	--	--	--
TUPELO AND BLACKGUM	3,329	1,649	1,043	520	179	109	101	9	62	19	--	--	--	--
ASH	6,349	2,868	1,178	904	554	433	193	132	62	18	7	--	--	--
COTTONWOOD	452	88	56	28	111	31	23	65	30	63	45	--	--	--
BASSWOOD	133	--	--	--	45	--	--	--	--	--	--	--	--	--
YELLOW POPLAR	20,666	5,578	3,782	3,297	2,731	1,842	1,265	681	509	307	14	--	--	--
BAY AND MAGNOLIA	158	75	51	32	--	--	--	--	--	--	--	--	--	--
BLACK CHERRY	1,031	855	107	69	--	--	--	--	--	--	--	--	--	--
BLACK WALNUT	1,418	201	107	69	47	18	13	36	--	16	--	--	--	--
STACMORE	1,556	72	340	115	385	116	79	72	69	10	--	--	--	--
BLACK LOCUST	409	173	174	30	24	--	--	8	--	--	--	--	--	--
FLM	10,867	6,410	2,484	994	694	175	115	62	16	7	11	--	--	--
OTHER EASTERN HARDWOOD	6,223	2,883	1,579	643	477	283	201	113	53	41	--	--	--	--
TOTAL HARDWOODS	257,736	106,884	58,512	34,518	22,717	12,474	7,187	3,817	1,962	1,784	193	--	--	--
ALL SPECIES	659,849	285,265	171,676	96,090	53,766	27,072	13,995	6,530	2,819	2,418	228	--	--	--

TABLE 14. -- VOLUME OF ALL LIVE TREES ON COMMERCIAL FOREST LAND, BY SPECIES AND DIAMETER CLASS, 1977

SPECIES	ALL CLASSES	DIAMETER CLASS (INCHES AT BREAST HEIGHT)										29.0 AND LARGER
		5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9		
THOUSAND CUBIC FEET												
SOFTWOOD:												
LONGLEAF PINE	2,954	530	369	317	--	452	948	--	--	--	338	
SLASH PINE	4,330	1,754	2,272	304	--	--	--	--	--	--	--	
SHORTLEAF PINE	902,585	161,475	246,249	215,148	145,988	74,619	38,856	15,391	2,720	2,139	--	
LOBLOLLY PINE	2,187,297	245,270	392,622	424,527	386,161	303,440	214,933	113,634	52,060	49,122	5,328	
POND PINE	--	--	--	--	--	--	--	--	--	--	--	
VIRGINIA PINE	272,005	50,849	71,781	67,909	41,695	25,278	7,445	5,156	884	1,008	--	
PITCH PINE	9,047	628	1,055	1,801	3,359	566	702	936	--	--	--	
TABLE-MOUNTAIN PINE	--	--	--	--	--	--	--	--	--	--	--	
SPRUCE PINE	--	--	--	--	--	--	--	--	--	--	--	
SAND PINE	--	--	--	--	--	--	--	--	--	--	--	
EASTERN WHITE PINE	23,448	--	1,082	1,098	1,686	2,173	2,693	2,344	1,551	9,828	993	
EASTERN HEMLOCK	7,135	588	960	730	979	1,011	454	--	--	2,413	--	
SPRUCE AND FIR	--	--	--	--	--	--	--	--	--	--	--	
BALDCYPRESS	--	--	--	--	--	--	--	--	--	--	--	
PONDYCYPRESS	--	--	--	--	--	--	--	--	--	--	--	
CEDARS	54,833	19,945	15,049	11,385	4,562	491	1,031	642	1,349	379	--	
TOTAL SOFTWOODS	3,463,634	481,039	731,639	723,219	584,430	408,030	267,062	138,103	58,564	64,889	6,659	
HARDWOOD:												
SELECT WHITE OAKS	399,764	47,024	59,357	70,166	58,549	54,590	41,304	24,170	13,746	23,663	7,195	
SELECT RED OAKS	131,313	12,712	14,310	20,174	22,715	21,124	15,010	11,576	4,425	6,882	2,585	
CHESTNUT OAK	69,864	5,873	8,181	11,752	12,034	9,387	7,316	6,674	824	6,546	1,277	
OTHER WHITE OAKS	104,510	19,515	16,379	16,756	22,226	12,540	4,654	3,389	2,959	4,594	1,498	
OTHER RED OAKS	636,907	81,626	99,539	100,279	108,075	74,267	63,228	41,360	24,631	31,931	11,971	
HICKORY	222,433	28,421	34,709	28,077	34,739	30,878	24,140	15,681	10,175	13,031	2,582	
YELLOW BIRCH	--	--	--	--	--	--	--	--	--	--	--	
HARD MAPLE	10,259	2,681	1,032	3,122	467	1,170	575	--	503	709	--	
SOFT MAPLE	174,593	31,546	29,938	30,207	24,783	16,084	13,972	6,865	6,952	9,160	4,986	
BEECH	35,406	1,577	2,063	3,888	6,534	3,113	2,296	2,459	1,906	10,849	621	
SWEETGUM	479,791	73,975	86,776	78,194	74,305	47,728	40,504	35,473	18,607	21,609	2,920	
WUPELO AND BLACKGUM	42,871	9,198	9,723	8,723	4,983	3,552	4,286	709	--	1,697	--	
ASH	97,029	12,109	13,381	16,075	15,113	14,949	8,071	7,801	4,788	3,567	1,175	
COTTONWOOD	32,370	--	1,723	454	2,160	801	1,114	3,902	2,442	7,423	12,351	
BASSWOOD	1,347	565	--	--	--	--	--	--	--	--	--	
YELLOW POPLAR	356,632	19,483	28,177	41,891	53,524	53,552	49,768	36,032	33,012	36,409	4,784	
BAY AND MAGNOLIA	1,562	350	677	375	--	--	--	--	160	--	--	
BLACK CHERRY	16,308	5,907	3,950	4,297	1,593	561	--	--	--	--	--	
BLACK WALNUT	9,420	1,477	--	1,797	1,141	496	706	2,117	--	1,686	--	
SYCAMORE	49,185	1,229	3,313	2,977	8,012	9,771	3,288	4,799	5,225	9,523	1,044	
BLACK LOCUST	5,508	1,338	2,141	1,001	300	334	334	334	--	--	--	
ELM	35,518	23,767	19,455	16,810	17,347	5,946	4,808	2,882	1,306	1,439	1,818	
OTHER EASTERN HARDWOODS	182,682	57,172	35,050	28,157	19,066	10,757	11,130	6,216	8,326	5,617	591	
TOTAL HARDWOODS	3,155,272	437,585	469,874	485,172	488,248	371,266	296,504	212,499	140,591	196,135	57,398	
ALL SPECIES	6,618,906	918,624	1,201,513	1,208,391	1,072,678	779,296	563,566	350,602	199,155	261,024	64,057	

TABLE 15. -- VOLUME OF GROWING STOCK ON COMMERCIAL FOREST LAND, BY SPECIES AND DIAMETER CLASS, 1977

SPECIES	ALL CLASSES	DIAMETER CLASS (INCHES AT BREAST HEIGHT)										21.0- 28.9	29.0 AND LARGER
		5.0- 6.9	7.0- 8.9	9.0- 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 20.9				
THOUSAND CUBIC FEET													
SOFTWOOD:													
LONGLEAF PINE	2,616	530	369	317	--	452	948	--	--	--	--	--	--
SLASH PINE	4,086	1,754	2,028	304	--	--	--	--	--	--	--	--	--
SHORTLEAF PINE	883,874	156,630	239,941	211,742	143,380	73,482	38,856	15,391	2,313	--	2,139	--	--
LOBLOLLY PINE	2,132,901	229,448	376,518	411,527	381,001	302,100	214,152	113,634	52,060	--	47,133	5,328	--
POND PINE	--	--	--	--	--	--	--	--	--	--	--	--	--
VIRGINIA PINE	256,791	47,274	66,061	63,490	41,007	24,466	7,445	5,156	884	--	1,008	--	--
PITCH PINE	7,849	354	1,055	1,801	2,791	566	346	936	--	--	--	--	--
TABLE-MOUNTAIN PINE	--	--	--	--	--	--	--	--	--	--	--	--	--
SPRUCE PINE	--	--	--	--	--	--	--	--	--	--	--	--	--
SAND PINE	--	--	--	--	--	--	--	--	--	--	--	--	--
EASTERN WHITE PINE	23,236	--	1,082	1,098	1,686	2,173	2,693	2,344	1,551	--	9,616	993	--
EASTERN HEMLOCK	7,135	588	960	730	979	1,011	454	--	--	--	2,413	--	--
SPRUCE AND FIR	--	--	--	--	--	--	--	--	--	--	--	--	--
BALDOCYPRESS	--	--	--	--	--	--	--	--	--	--	--	--	--
POND CYPRESS	--	--	--	--	--	--	--	--	--	--	--	--	--
CEDARS	50,725	18,380	13,776	10,648	4,317	203	1,031	642	1,349	--	379	--	--
TOTAL SOFTWOODS	3,369,213	454,958	701,790	701,657	575,161	404,453	265,925	138,103	58,157	62,688	6,321	--	--
HARDWOOD:													
SELECT WHITE OAKS	369,476	39,370	54,292	65,755	56,051	53,179	40,893	21,848	12,228	20,129	5,731	--	--
SELECT RED OAKS	115,679	10,687	11,642	17,732	19,247	19,150	14,108	10,867	4,262	6,682	1,302	--	--
CHESTNUT OAK	52,936	3,089	6,257	10,501	9,461	7,349	5,230	5,655	396	4,998	--	--	--
OTHER WHITE OAKS	81,880	14,915	11,446	14,588	18,109	9,869	4,389	2,881	2,324	2,271	1,088	--	--
OTHER RED OAKS	568,664	66,933	87,379	89,954	98,763	69,832	56,730	37,563	22,595	29,234	9,681	--	--
HICKORY	205,718	24,966	33,256	26,097	33,711	28,691	21,515	13,931	10,175	11,201	2,175	--	--
YELLOW BIRCH	--	--	--	--	--	--	--	--	--	--	--	--	--
YELLOW MAPLE	7,875	1,287	485	2,752	394	1,170	575	--	503	709	--	--	--
SOFT MAPLE	104,976	16,356	16,893	19,974	16,074	11,058	8,355	4,678	5,021	5,303	1,264	--	--
BEECH	29,070	1,065	1,832	3,238	5,945	2,774	1,601	2,045	1,217	8,912	441	--	--
SWEETGUM	431,557	60,191	75,336	70,894	67,001	45,297	38,964	35,171	17,174	18,961	2,568	--	--
TUPELO AND BLACKGUM	26,420	3,930	6,285	5,856	2,845	2,437	3,307	390	--	1,370	--	--	--
ASH	73,390	8,334	7,781	10,824	11,854	12,439	7,717	7,278	3,795	2,193	1,175	--	--
COTTONWOOD	31,004	357	357	454	2,160	801	1,114	3,902	2,442	7,423	12,351	--	--
BASSWOOD	1,042	260	--	--	--	--	--	--	--	--	--	--	--
YELLOW-POPLAR	340,406	16,874	26,590	40,738	52,777	51,559	48,612	34,925	32,796	31,980	3,555	--	--
BAY AND MAGNOLIA	1,177	350	452	375	--	--	--	--	--	--	--	--	--
BLACK CHERRY	3,855	2,565	586	704	--	--	--	--	--	--	--	--	--
BLACK WALNUT	7,107	599	--	971	725	496	567	2,117	--	1,632	--	--	--
SYCAMORE	42,974	296	2,282	1,939	7,502	9,022	2,963	4,035	4,785	9,106	1,044	--	--
BLACK LOCUST	2,246	473	788	281	300	--	--	394	--	--	--	--	--
ELM	72,261	16,873	14,949	11,313	13,146	4,632	4,808	2,882	1,306	528	1,818	--	--
OTHER EASTERN HARDWOODS	64,733	7,449	9,806	7,539	8,635	7,895	7,758	5,055	6,171	4,425	--	--	--
TOTAL HARDWOODS	2,634,446	296,668	368,694	402,489	425,482	337,650	269,206	195,617	127,190	167,057	44,193	--	--
ALL SPECIES	6,003,659	751,826	1,070,484	1,104,146	1,000,643	742,103	535,131	333,720	185,347	229,745	50,514	--	--

TABLE 16. - VOLUME OF SAWTIMBER IN COMMERCIAL FOREST LAND, BY SPECIES AND DIAMETER CLASS, 1977

SPECIES	ALL CLASSES	DIAMETER CLASS (INCHES AT BREAST HEIGHT)								29.0 AND LARGER
		9.0- 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 20.9	21.0- 28.9		
THOUSAND BOARD FEET										
SOFTWOOD:										
LONGLEAF PINE	8,925	1,184	--	2,333	5,408	--	--	--	--	--
SLASH PINE	1,085	--	--	--	--	--	--	--	--	--
SHORTLEAF PINE	2,127,796	778,207	643,886	372,528	214,803	90,374	14,216	13,782	--	--
LOBLOLLY PINE	7,166,515	1,437,900	1,678,427	1,526,196	1,184,835	668,918	323,649	308,631	--	37,959
POND PINE	--	--	--	--	--	--	--	--	--	--
VIRGINIA PINE	574,085	219,762	169,257	111,446	36,651	26,545	4,771	5,653	--	--
PITCH PINE	27,592	5,870	11,389	2,835	1,961	5,537	--	--	--	--
TABLE-MOUNTAIN PINE	--	--	--	--	--	--	--	--	--	--
SPRUCE PINE	--	--	--	--	--	--	--	--	--	--
SAND PINE	--	--	--	--	--	--	--	--	--	--
EASTERN WHITE PINE	123,652	4,139	7,116	10,491	14,106	12,822	9,012	59,519	--	6,447
EASTERN HEMLOCK	28,146	2,283	3,942	4,782	2,355	--	--	14,784	--	--
SPRUCE AND FIR	--	--	--	--	--	--	--	--	--	--
BALDOCYPRESS	--	--	--	--	--	--	--	--	--	--
PONDOCYPRESS	--	--	--	--	--	--	--	--	--	--
CEDARS	84,855	43,260	20,286	1,040	5,749	3,737	8,391	2,392	--	--
TOTAL SOFTWOODS	10,142,651	2,493,690	2,534,303	2,031,651	1,465,868	807,933	360,039	404,761	--	44,406
HARDWOOD:										
SELECT WHITE OAKS	868,690	--	182,377	205,331	175,142	101,861	60,381	109,076	--	34,522
SELECT RED OAKS	303,186	--	61,737	72,415	57,926	47,985	20,068	34,195	--	8,860
CHESTNUT OAK	131,261	--	29,461	27,392	21,639	25,343	1,868	25,558	--	--
OTHER WHITE OAKS	173,536	--	65,234	41,511	19,996	14,323	12,315	13,249	--	6,908
OTHER RED OAKS	1,401,815	--	342,693	280,792	254,210	184,806	115,881	161,656	--	61,777
HICKORY	523,552	--	113,240	114,900	97,108	68,218	52,900	63,539	--	13,647
YELLOW BIRCH	--	--	--	--	--	--	--	--	--	--
HARD MAPLE	14,538	--	1,416	4,790	2,497	--	2,367	3,468	--	--
SOFT MAPLE	205,676	--	51,355	40,930	34,508	21,060	23,645	27,064	--	7,114
BEECH	90,433	--	21,794	10,514	6,269	8,148	4,921	36,912	--	1,875
SWEETGUM	1,028,198	--	236,734	191,323	187,946	184,284	95,907	114,993	--	17,011
TUPELO AND BLACKGUM	40,151	--	8,535	9,129	13,771	1,745	--	6,971	--	--
ASH	190,834	--	38,749	47,996	32,897	33,760	18,618	12,001	--	6,813
COTTONWOOD	164,193	--	6,904	3,065	4,825	18,487	12,291	41,147	--	77,474
BASSWOOD	2,825	--	2,825	--	--	--	--	--	--	--
YELLOW-POPLAR	1,230,937	--	186,842	221,505	236,141	184,558	184,019	192,943	--	24,929
BAY AND MAGNOLIA	--	--	--	--	--	--	--	--	--	--
BLACK CHERRY	--	--	--	--	--	--	--	--	--	--
BLACK WALNUT	19,591	--	2,499	1,725	1,991	7,516	--	5,860	--	--
SYCAMORE	169,150	--	23,063	34,115	12,997	19,231	23,845	49,620	--	6,279
BLACK LOCUST	2,541	--	1,039	--	--	1,502	--	--	--	--
ELM	114,544	--	44,212	17,806	20,468	13,148	6,211	2,579	--	10,120
OTHER EASTERN HARDWOODS	161,885	--	28,727	30,125	31,603	22,436	28,019	20,975	--	--
TOTAL HARDWOODS	6,837,536	--	1,449,436	1,355,364	1,211,934	958,411	663,256	921,806	--	277,329
ALL SPECIES	16,980,187	2,493,690	3,983,739	3,387,015	2,677,802	1,766,344	1,023,295	1,326,567	--	321,735

TABLE 17.--NET ANNUAL GROWTH AND REMOVALS OF GROWING STOCK ON COMMERCIAL FOREST LAND, BY SPECIES, 1976

SPECIES	NET ANNUAL GROWTH	ANNUAL TIMBER REMOVALS
- - THOUSAND CUBIC FEET - -		
SOFTWOOD:		
YELLOW PINES	243,094	127,308
EASTERN WHITE PINE	1,069	406
SPRUCE AND FIR	--	--
CYPRESS	--	--
OTHER EASTERN SOFTWOODS	5,039	1,253
TOTAL SOFTWOODS	249,202	128,967
HARDWOOD:		
SELECT WHITE AND RED OAKS	22,840	10,664
OTHER WHITE AND RED OAKS	35,898	13,076
HICKORY	7,713	2,511
YELLOW BIRCH	--	--
HARD MAPLE	205	--
SWEETGUM	19,312	5,297
ASH, WALNUT, AND BLACK CHERRY	3,434	525
YELLOW-POPLAR	18,773	6,099
TUPELO AND BLACKGUM	812	395
BAY AND MAGNOLIA	50	167
OTHER EASTERN HARDWOODS	15,573	3,761
TOTAL HARDWOODS	124,610	42,495
ALL SPECIES	373,812	171,462

TABLE 18.--NET ANNUAL GROWTH AND REMOVALS OF SAWTIMBER ON COMMERCIAL FOREST LAND, BY SPECIES, 1976

SPECIES	NET ANNUAL GROWTH	ANNUAL TIMBER REMOVALS
- - - THOUSAND BOARD FEET - - -		
SOFTWOOD:		
YELLOW PINES	819,830	427,168
EASTERN WHITE PINE	5,245	2,120
SPRUCE AND FIR	--	--
CYPRESS	--	--
OTHER EASTERN SOFTWOODS	8,206	3,346
TOTAL SOFTWOODS	833,281	432,634
HARDWOOD:		
SELECT WHITE AND RED OAKS	80,898	35,873
OTHER WHITE AND RED OAKS	113,405	42,449
HICKORY	19,928	6,590
YELLOW BIRCH	--	--
HARD MAPLE	2,471	--
SWEETGUM	51,608	14,754
ASH, WALNUT, AND BLACK CHERRY	12,231	2,564
YELLOW-POPLAR	85,831	24,209
TUPELO AND BLACKGUM	1,922	1,218
BAY AND MAGNOLIA	--	649
OTHER EASTERN HARDWOODS	40,079	11,738
TOTAL HARDWOODS	408,373	140,044
ALL SPECIES	1,241,654	572,678

TABLE 19. --MORTALITY OF GROWING STOCK AND SAWTIMBER ON COMMERCIAL FOREST LAND, BY SPECIES, 1976

SPECIES	GROWING STOCK	SAWTIMBER
	THOUSAND CUBIC FEET	THOUSAND BOARD FEET
SOFTWOOD:		
YELLOW PINES	29,204	71,715
EASTERN WHITE PINE	--	--
SPRUCE AND FIR	--	--
CYPRESS	--	--
OTHER EASTERN SOFTWOODS	1,055	3,422
TOTAL SOFTWOODS	30,259	75,137
HARDWOOD:		
SELECT WHITE AND RED OAKS	638	864
OTHER WHITE AND RED OAKS	4,195	6,855
HICKORY	312	1,196
YELLOW BIRCH	--	--
HARD MAPLE	--	--
SWEETGUM	2,156	6,518
ASH, WALNUT, AND BLACK CHERRY	581	--
YELLOW-POPLAR	560	1,684
TUPELO AND BLACKGUM	--	--
BAY AND MAGNOLIA	--	--
OTHER EASTERN HARDWOODS	4,029	10,657
TOTAL HARDWOODS	12,471	27,774
ALL SPECIES	42,730	102,911

TABLE 20. --VOLUME OF ALL LIVE TREES AND GROWING STOCK ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1977

OWNERSHIP CLASS	ALL LIVE TREES				GROWING STOCK					
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
						THOUSAND CUBIC FEET				
NATIONAL FOREST	718,681	420,891	23,179	135,259	139,352	664,965	413,382	22,761	115,472	113,350
OTHER PUBLIC	202,377	99,552	1,914	37,439	63,472	185,034	96,978	1,914	29,962	56,180
FOREST INDUSTRY	508,615	365,853	4,714	125,190	112,858	555,024	357,450	4,444	103,366	89,744
FARMER	2,308,850	1,029,419	33,628	509,956	735,847	2,081,927	996,695	32,290	428,618	622,324
MISCELLANEOUS PRIVATE	2,780,383	1,462,503	21,981	474,955	820,944	2,516,729	1,421,612	19,687	395,313	680,117
ALL OWNERSHIPS	6,618,906	3,378,218	85,416	1,282,799	1,872,473	6,003,659	3,288,117	81,096	1,072,731	1,561,715

TABLE 21. --VOLUME OF SAWTIMBER ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1977

OWNERSHIP CLASS	SMALL SAWTIMBER ¹				LARGE SAWTIMBER ²					
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
						THOUSAND BOARD FEET				
NATIONAL FOREST	1,173,239	958,274	22,158	94,913	97,894	1,432,561	849,421	90,801	293,016	199,323
OTHER PUBLIC	331,656	245,661	--	32,353	53,642	276,003	132,082	5,792	38,938	99,191
FOREST INDUSTRY	915,332	731,352	--	83,761	100,219	589,821	257,928	2,363	218,310	111,220
FARMER	3,315,354	2,120,047	44,008	457,967	693,332	2,232,809	669,170	30,230	739,735	793,674
MISCELLANEOUS PRIVATE	4,128,863	2,906,971	31,173	419,088	771,631	2,584,549	1,035,092	10,128	614,706	924,623
ALL OWNERSHIPS	9,864,444	6,962,305	97,339	1,088,082	1,716,718	7,115,743	2,943,693	139,314	1,904,705	2,128,031

¹ VOLUME OF SAWTIMBER TREES LESS THAN 15.0 INCHES AT D.B.H.² VOLUME OF SAWTIMBER TREES 15.0 INCHES AND LARGER AT D.B.H.

TABLE 22. --NET ANNUAL GROWTH AND REMOVALS OF GROWING STOCK ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1976

TABLE 22.--NET ANNUAL GROWTH AND REMOVALS OF GROWING STOCK ON COMMERCIAL FORESTS, 1967										
OWNERSHIP CLASS	NET ANNUAL GROWTH				ANNUAL TIMBER REMOVALS					
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD

TABLE 23. --NET ANNUAL GROWTH AND REMOVALS OF SAWTIMBER ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1976

OWNERSHIP CLASS	NET ANNUAL GROWTH					ANNUAL TIMBER REMOVALS				
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD

TABLE 24. --AVERAGE NET VOLUME PER ACRE OF SAWTIMBER, GROWING STOCK, AND OTHER LIVE TIMBER¹ ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS, MAJOR FOREST TYPE, AND SPECIES GROUP, 1977

FOREST TYPE, ² AND SPECIES GROUP ³ , AND CLASS OF MATERIAL	ALL OWNERSHIPS			OWNERSHIP CLASS					
	BOARD FEET	CUBIC FEET		NATIONAL FOREST		OTHER PUBLIC		FOREST INDUSTRY	
	BOARD FEET	CUBIC FEET		BOARD FEET	CUBIC FEET	BOARD FEET	CUBIC FEET	BOARD FEET	CUBIC FEET
PINE TYPES:									
GROWING STOCK:									
SOFTWOOD	3,594	1,220		7,566	1,734	5,798	1,471	2,534	940
HARDWOOD	245	136		282	145	301	239	215	112
TOTAL	3,839	1,356		7,848	1,879	6,099	1,710	2,749	1,052
OTHER TIMBER:									
SOFTWOOD	--	35		--	35	--	41	--	24
HARDWOOD	--	42		--	64	--	70	--	40
TOTAL	--	77		--	99	--	111	--	64
OAK-PINE TYPES:									
GROWING STOCK:									
SOFTWOOD	1,796	554		3,464	759	218	44	788	306
HARDWOOD	1,301	562		1,175	552	--	--	551	334
TOTAL	3,097	1,116		4,639	1,311	218	44	1,339	640
OTHER TIMBER:									
SOFTWOOD	--	13		--	10	--	--	--	6
HARDWOOD	--	132		--	133	--	--	--	21
TOTAL	--	145		--	143	--	--	--	27
UPLAND HARDWOOD TYPES:									
GROWING STOCK:									
SOFTWOOD	484	142		1,614	340	369	123	482	134
HARDWOOD	3,179	1,182		4,455	1,522	3,748	1,300	2,179	808
TOTAL	3,663	1,324		6,069	1,862	4,117	1,423	2,661	942
OTHER TIMBER:									
SOFTWOOD	--	4		--	--	--	--	--	--
HARDWOOD	--	200		--	253	--	190	--	187
TOTAL	--	204		--	253	--	190	--	187
BOTTOMLAND HARDWOOD TYPES:									
GROWING STOCK:									
SOFTWOOD	319	69		--	--	--	--	461	101
HARDWOOD	6,246	1,847		12,783	3,009	--	--	6,916	1,930
TOTAL	6,565	1,916		12,783	3,009	--	--	7,377	2,031
OTHER TIMBER:									
SOFTWOOD	--	--		--	--	--	--	--	--
HARDWOOD	--	368		--	336	--	--	--	385
TOTAL	--	368		--	336	--	--	--	385
ALL TYPES:									
GROWING STOCK:									
SOFTWOOD	2,240	744		5,348	1,215	3,155	814	1,866	681
HARDWOOD	1,510	582		1,908	637	1,844	709	966	363
TOTAL	3,750	1,326		7,256	1,852	4,999	1,523	2,832	1,044
OTHER TIMBER:									
SOFTWOOD	--	21		--	22	--	21	--	16
HARDWOOD	--	115		--	128	--	122	--	85
TOTAL	--	136		--	150	--	143	--	101
ALL TIMBER	3,750	1,462		7,256	2,002	4,999	1,666	2,832	1,145

¹ROUGH AND ROTTEN TREES.

TABLE 25. --LAND AREA, BY CLASS, MAJOR FOREST TYPE, AND SURVEY COMPLETION DATE, 1958, 1967, AND 1977

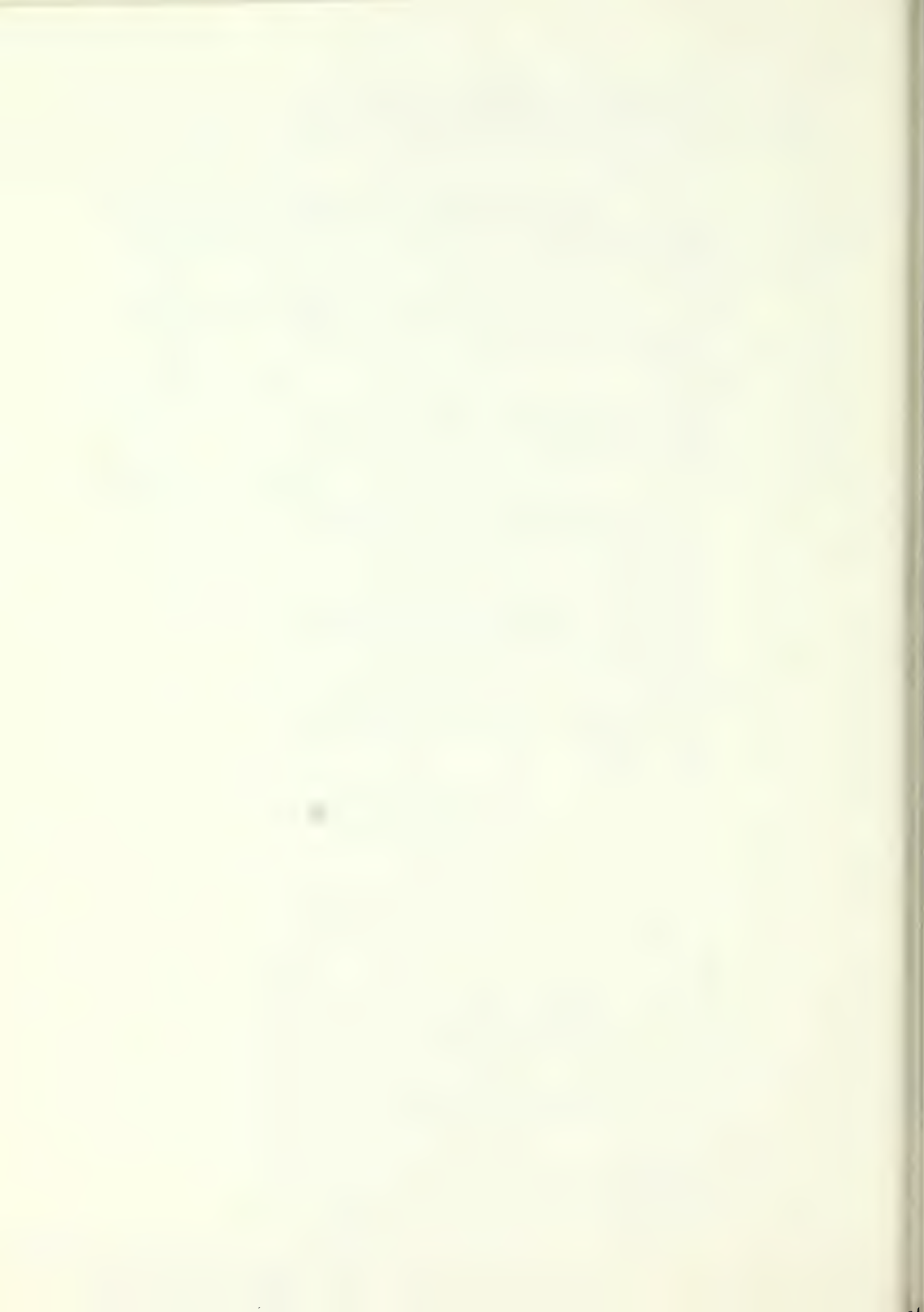
LAND USE CLASS	SURVEY COMPLETION DATE			CHANGE 1967-1977
	1958	1967	1977	
- - - - - ACRES - - - - -				
FOREST LAND:				
COMMERCIAL FOREST LAND:				
PINE AND OAK-PINE TYPES	2,617,500	3,053,500	2,929,453	-124,047
HARDWOOD TYPES	1,528,300	1,425,611	1,598,583	+172,972
TOTAL	4,145,800	4,479,111	4,528,036	+ 48,925
NONCOMMERCIAL FOREST LAND:				
PRODUCTIVE-RESERVED	53,900	46,600	38,746	- 7,854
UNPRODUCTIVE	4,300	--	--	--
TOTAL	58,200	46,600	38,746	- 7,854
NONFOREST LAND:				
CROPLAND	1,808,900	1,021,527	741,685	-279,842
PASTURE AND RANGE	407,300	661,429	728,065	+ 66,636
OTHER	274,200	472,113	607,247	+135,134
TOTAL	2,490,400	2,155,069	2,076,997	- 78,072
ALL LAND ¹	6,694,400	6,680,780	6,643,779	- 37,001

¹ EXCLUDES ALL WATER AREAS.

TABLE 26. --VOLUME OF SAWTIMBER, GROWING STOCK, AND ALL LIVE TIMBER ON COMMERCIAL FOREST LAND, BY SPECIES GROUP, DIAMETER CLASS, AND SURVEY COMPLETION DATE

SPECIES GROUP	YEAR	ALL CLASSES	DIAMETER CLASS (INCHES AT BREAST HEIGHT)									
			5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0 AND LARGER	
			SAWTIMBER (IN THOUSAND BOARD FEET)									
SOFTWOOD	1958	4,946,872	--	--	1,378,867	1,225,538	842,503	613,816	331,116	256,926	238,106	
	1967	6,374,145	--	--	1,630,671	1,595,673	1,292,910	803,280	454,984	283,752	312,875	
	1977	10,142,651	--	--	2,493,690	2,534,303	2,031,651	1,465,868	807,933	360,039	449,167	
HARDWOOD	1958	4,067,352	--	--	--	907,679	834,936	661,762	599,829	385,102	678,044	
	1967	4,747,010	--	--	--	998,421	972,387	779,884	701,517	460,902	813,899	
	1977	6,837,536	--	--	--	1,449,436	1,355,364	1,211,934	958,411	663,256	1,199,135	
			GROWING STOCK (IN THOUSAND CUBIC FEET)									
SOFTWOOD	1958	1,302,399	383,579	429,703	387,976	278,152	167,729	111,360	56,601	41,500	45,799	
	1967	2,319,264	423,999	499,472	458,827	362,159	257,398	145,733	77,775	45,833	48,068	
	1977	3,359,213	454,958	701,790	701,657	575,161	404,453	265,925	138,103	58,157	69,009	
HARDWOOD	1958	1,618,573	199,234	235,456	246,726	266,416	208,006	146,993	122,439	73,845	119,458	
	1967	1,928,434	239,186	304,397	296,910	293,050	242,249	177,673	143,196	88,380	143,393	
	1977	2,634,445	296,868	368,694	402,489	425,482	337,650	269,206	195,617	127,190	211,250	
			ALL LIVE TIMBER (IN THOUSAND CUBIC FEET)									
SOFTWOOD	1958	1,962,909	405,506	448,177	399,620	282,689	169,224	111,834	56,601	41,735	47,463	
	1967	2,359,688	448,235	520,945	472,597	368,085	259,700	146,370	77,775	46,191	49,790	
	1977	3,463,634	481,039	731,639	723,219	584,430	408,030	267,062	138,103	58,564	71,548	
HARDWOOD	1958	1,945,325	293,697	299,904	297,482	305,615	228,744	161,870	133,001	81,599	143,413	
	1967	2,321,919	352,593	387,714	357,993	336,178	266,393	195,675	155,574	97,653	172,116	
	1977	3,155,272	437,585	469,874	485,172	488,248	371,266	296,504	212,499	140,591	253,533	

¹ TO PROVIDE A BASIS FOR VALID COMPARISONS, ADJUSTMENTS HAVE BEEN MADE TO ALLOW FOR DIFFERENCES IN VOLUME TABLES AND SAWTIMBER SPECIFICATIONS USED IN PREVIOUS SURVEYS.



Snyder, Nolan L.

1978. Forest statistics for the Piedmont of South Carolina, 1977. U.S. Dep. Agric. For. Serv., Resour. Bull. SE-45, 33 p. Southeast. For. Exp. Stn., Asheville, N. C.

In 1976, net annual growth of growing stock averaged almost 83 cubic feet per acre of commercial forest land—a record high for an entire Survey Unit in the Southeast. The area of commercial forest land in this 18-county area has changed little since 1967, and now totals 4.5 million acres. The inventory of softwood and hardwood growing stock increased by 45 and 37 percent, respectively. Annual timber removals were less than one-half the net growth. About 48 percent of the land now classified as commercial forest has been treated or significantly disturbed since 1967.

Keywords: Forest trends, commercial forest land, forest ownership, timber volume, timber growth, timber removals.

Snyder, Nolan L.

1978. Forest statistics for the Piedmont of South Carolina, 1977. U.S. Dep. Agric. For. Serv., Resour. Bull. SE-45, 33 p. Southeast. For. Exp. Stn., Asheville, N. C.

In 1976, net annual growth of growing stock averaged almost 83 cubic feet per acre of commercial forest land—a record high for an entire Survey Unit in the Southeast. The area of commercial forest land in this 18-county area has changed little since 1967, and now totals 4.5 million acres. The inventory of softwood and hardwood growing stock increased by 45 and 37 percent, respectively. Annual timber removals were less than one-half the net growth. About 48 percent of the land now classified as commercial forest has been treated or significantly disturbed since 1967.

Keywords: Forest trends, commercial forest land, forest ownership, timber volume, timber growth, timber removals.



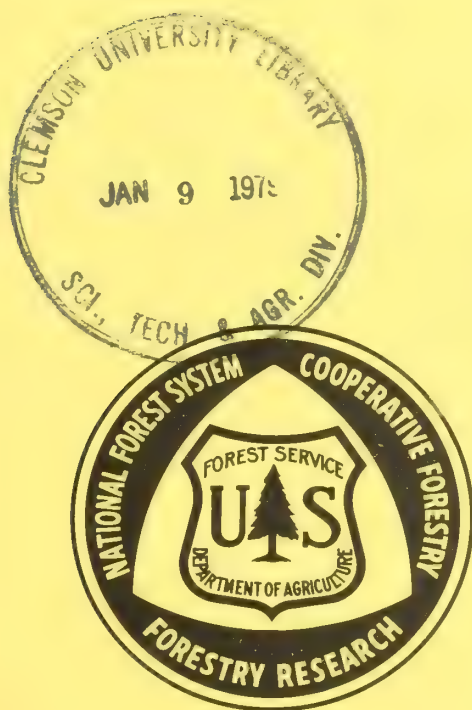
The Forest Service, U. S. Department of Agriculture, is dedicated to the principle of multiple use management of the Nation's forest resources for sustained yields of wood, water, forage, wildlife, and recreation. Through forestry research, cooperation with the States and private forest owners, and management of the National Forests and National Grasslands, it strives—as directed by Congress—to provide increasingly greater service to a growing Nation.

USDA policy does not permit discrimination because of race, color, national origin, sex or religion. Any person who believes he or she has been discriminated against in any USDA-related activity should write immediately to the Secretary of Agriculture, Washington, D. C. 20250.

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE RESOURCE BULLETIN SE-46

SOUTHERN PULPWOOD PRODUCTION, 1977

Thomas R. Bellamy



In this report:

SOUTHERN PULPWOOD	Page
PRODUCTION BY —	
—roundwood and residues	2, 3
—state	1, 2, 3
—species group	2, 3, 4
—territory	4
—county	5-16
PULPMILLS USING SOUTHERN	
WOOD, BY—	
—location, process, and capacity	17-21
PULPMILLS UNDER CONSTRUCTION	17, 21

October 1978

**Southeastern Forest Experiment Station
Asheville, North Carolina**

SOUTHERN PULPWOOD PRODUCTION, 1977

Thomas R. Bellamy

**SOUTHEASTERN FOREST EXPERIMENT
STATION**

Asheville, North Carolina
and

**SOUTHERN FOREST EXPERIMENT
STATION**

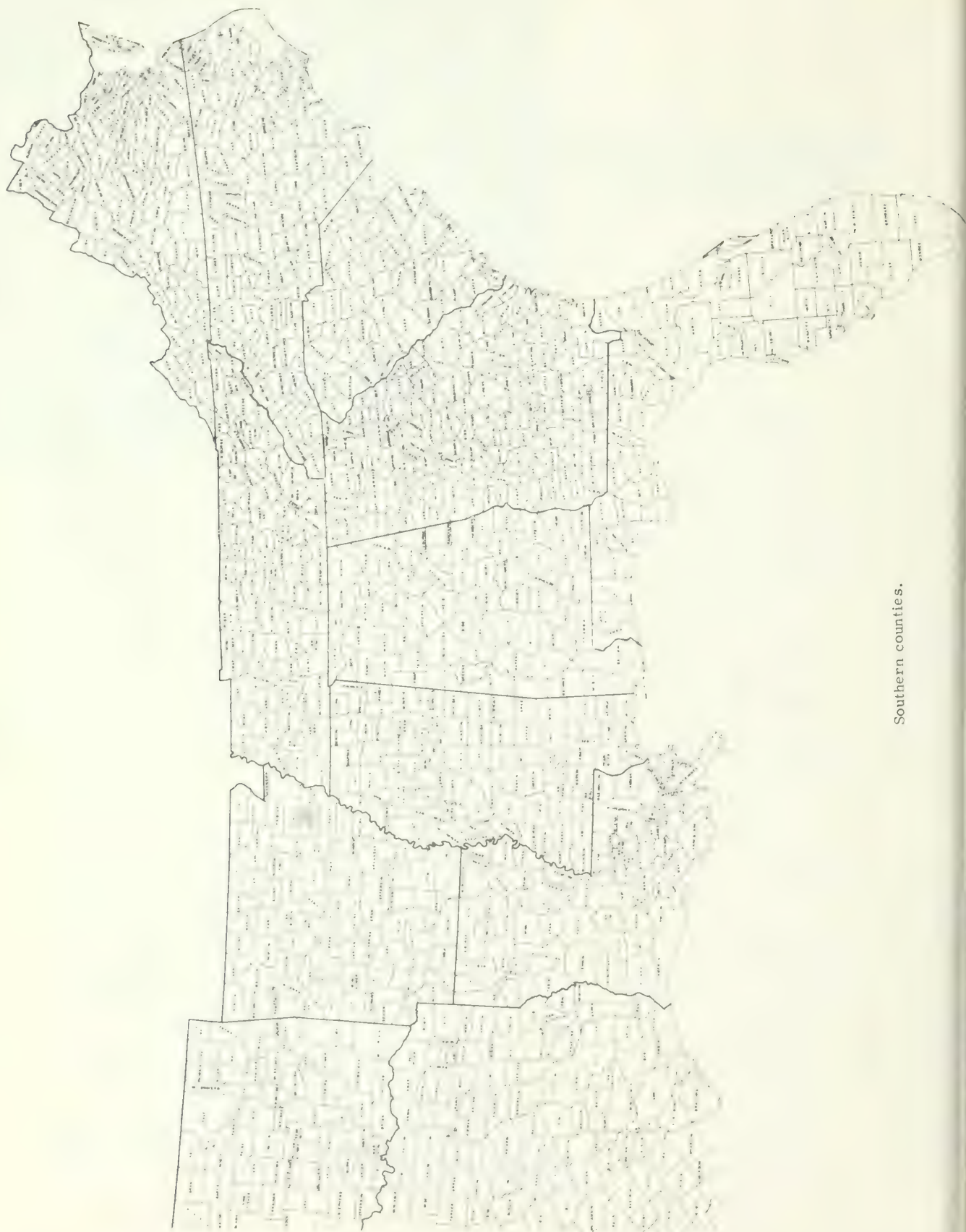
New Orleans, Louisiana
of the

**Forest Service, U.S. Department of
Agriculture**

in cooperation with the

AMERICAN PULPWOOD ASSOCIATION

1977



Southern counties.

HIGHLIGHTS—Southern pulpwood production increased 3 percent in 1977 to 48.9 million cords. Roundwood production increased slightly while use of plant byproducts rose 9 percent. The use of plant byproducts continues to increase and now contributes 34 percent of the total. Pulping capacity increased to 100,894 tons per day.

Total pulpwood production in the South in 1977 was 48.9 million cords—3 percent more than in 1976 (table 1). Production declined in five States in the Midsouth and one in the Southeast. Roundwood production declined in 7 of the 12 States, while a decline in use of plant byproducts was reported in only 2 States. When combined, pulpwood production for these States declined by almost 658,000 cords.

Normally, when roundwood production increases, it occurs for both hardwood and softwood. In 1977, however, softwood output increased 74,700 cords while that of hardwood decreased 44,200 cords. The net result was an increase in roundwood production of less than 0.5 percent (tables 2 and 3). Roundwood accounted for two-thirds of the total production, about 2 percent less than the previous year.

As in previous years, Georgia led in roundwood production. Output there increased by more than 230,000 cords, and most of the increase was in softwood. Production in Alabama and Mississippi, the other two leading producers, declined almost 360,000 cords.

Since 1970, the use of plant byproducts for pulp manufacture has increased more rapidly than roundwood use (tables 4 and 5, fig. 1). Plant byproducts made up 20 percent of the mill furnish in 1970 and 34 percent in 1977. The average annual increase was over 10 percent. Meanwhile, 1977 roundwood production was less than the peaks reported in 1970 and 1974.

Table 1.--Pulpwood production in the South during 1977, and change since 1976

State	Pulpwood	Change
	Thousand cords	Percent
Alabama	7,072.1	- 4
Arkansas	3,498.6	- 1
Florida	3,630.3	+10
Georgia	8,365.5	+ 8
Louisiana	4,340.3	+ 1
Mississippi	5,211.9	- 2
North Carolina	4,576.1	+10
Oklahoma	692.1	+33
South Carolina	4,421.6	+14
Tennessee	670.6	-12
Texas	3,741.9	- 2
Virginia	2,637.8	- 1
All States	48,858.8	+ 3

For estimates of pulpwood production, the South is traditionally divided into two major regions: the Southeast; which includes the States of Virginia, North and South Carolina, Georgia, and Florida; and the Midsouth; which includes Alabama, Mississippi, Tennessee, Arkansas, Louisiana, Texas, and Oklahoma. A decline of 3 percent in softwood roundwood production in the Midsouth and a 4 percent increase in the Southeast enabled the Southeast to regain the lead in softwood roundwood output. The Midsouth, however, led in all other types of pulpwood production (table 6). The production of all wood in the Midsouth declined by 2 percent, while the Southeast pulpwood output increased by 8 percent.

Table 2.--Roundwood production in the South, by State and species group, 1977

State	All species	Softwood	Hardwood			
			Total	Gums	Oaks	Other hardwoods
----- Thousand cords -----						
Alabama	4,793.7	3,393.0	1,400.7	171.7	540.2	688.8
Arkansas	2,220.2	1,454.6	765.6	34.0	560.6	171.0
Florida	2,799.4	2,513.7	285.7	123.4	124.2	38.1
Georgia	5,830.3	5,133.2	697.1	304.8	282.3	110.0
Louisiana	2,730.1	2,027.0	703.1	60.2	275.8	367.1
Mississippi	3,411.4	2,276.7	1,134.7	129.7	466.8	538.2
North Carolina	2,757.8	1,680.7	1,077.1	430.8	440.0	206.3
Oklahoma	329.6	231.6	98.0	5.6	60.7	31.7
South Carolina	2,683.2	1,963.0	720.2	325.0	279.3	115.9
Tennessee	470.9	213.9	257.0	12.0	130.1	114.9
Texas	2,340.3	1,944.3	396.0	77.6	182.7	135.7
Virginia	1,680.2	825.6	854.6	77.9	426.1	350.6
All States	32,047.1	23,657.3	8,389.8	1,752.7	3,768.8	2,868.3

Table 3.--Roundwood production in the South, by State and species group, 1977 and 1976

State	:	:	1977			:	1976							
	:	Change	:	:	:	:	:	:						
	:	from	:	:	:	:	:	:						
	:	1976	:	All	Softwood	Hardwood	:	All	Softwood	Hardwood				
:	:	:	species	:	:	:	species	:	:	:				
		<u>Percent</u>	-	-	-	-	-	<u>Thousand cords</u>	-	-	-	-	-	-
Alabama	- 4	4,793.7	3,393.0	1,400.7	5,007.3	3,541.1	1,466.2							
Arkansas	- 3	2,220.2	1,454.6	765.6	2,294.2	1,482.4	811.8							
Florida	+ 5	2,799.4	2,513.7	285.7	2,667.6	2,412.4	255.2							
Georgia	+ 4	5,830.3	5,133.2	697.1	5,599.2	4,965.7	633.5							
Louisiana	- 5	2,730.1	2,027.0	703.1	2,875.7	2,174.4	701.3							
Mississippi	- 4	3,411.4	2,276.7	1,134.7	3,556.1	2,274.9	1,281.2							
North Carolina	+11	2,757.8	1,680.7	1,077.1	2,483.8	1,490.3	993.5							
Oklahoma	+25	329.6	231.6	98.0	264.4	185.7	78.7							
South Carolina	+ 3	2,683.2	1,963.0	720.2	2,601.5	2,009.9	591.6							
Tennessee	-10	470.9	213.9	257.0	525.2	229.7	295.5							
Texas	- 3	2,340.3	1,944.3	396.0	2,405.5	2,004.8	400.7							
Virginia	- 3	1,680.2	825.6	854.6	1,736.1	811.3	924.8							
All States	+(1/)	32,047.1	23,657.3	8,389.8	32,016.6	23,582.6	8,434.0							

1/ Less than 0.5 percent increase.

In 1977, 67 southern counties or parishes produced over 100,000 cords of roundwood, and 27 of these produced over 100,000 cords of softwood. Only three counties, Craven in North Carolina, Choctaw in Alabama, and Ashley in Arkansas, produced over 200,000 cords. Hardwood production exceeded 100,000 cords in the last two counties. Tables 7-18 show county production totals.

Southern pulping capacity in 1977 rose almost 3 percent to 100,894 tons per day (table

19). One new mill came on stream in Arkansas and several expansion projects were completed, bringing the number of mills in the South to 113. In addition, 11 mills outside the South used southern pulpwood, primarily plant byproducts (table 20). Only one mill was under construction at the end of the year (table 21). Despite a decline in pulpwood production, the Midsouth dominated pulping capacity growth, gaining 1,955 tons per day, or 69 percent of the year's increase across the South.

Table 4.--Southern output of plant byproducts for pulp manufacture,
by State and species group, 1977 and 1976

State	Change from 1976	1977			1976		
		All species	Softwood	Hardwood	All species	Softwood	Hardwood
Percent		Thousand cords					
Alabama	- 5	2,278.4	1,916.2	362.2	2,386.2	1,978.0	408.2
Arkansas	+ 3	1,278.4	1,118.4	160.0	1,238.9	1,111.4	127.5
Florida	+31	830.9	724.0	106.9	636.6	522.2	114.4
Georgia	+17	2,535.2	2,244.4	290.8	2,174.5	1,909.8	264.7
Louisiana	+14	1,610.2	1,368.3	241.9	1,407.2	1,176.6	230.6
Mississippi	+ 1	1,800.5	1,429.9	370.6	1,786.2	1,404.6	381.6
North Carolina	+ 9	1,818.3	1,491.8	326.5	1,674.9	1,394.3	280.6
Oklahoma	+41	362.5	362.5	--	257.3	218.9	38.4
South Carolina	+36	1,738.4	1,499.1	239.3	1,278.9	1,030.1	248.8
Tennessee	-14	199.7	17.9	181.8	233.3	23.5	209.8
Texas	+(1/)	1,401.6	1,240.8	160.8	1,395.8	1,269.5	126.3
Virginia	+ 3	957.6	588.1	369.5	925.7	554.8	370.9
All States	+ 9	16,811.7	14,001.4	2,810.3	15,395.5	12,593.7	2,801.8

1/ Less than 0.5 percent increase.

Table 5.--Southern output of plant byproducts for pulp manufacture, by State and type
of residue, 1977

State	All types	Chips			Other residues ^{1/}		
		All species	Softwood	Hardwood	All species	Softwood	Hardwood
----- <u>Thousand cords</u> -----							
Alabama	2,278.4	2,112.8	1,769.7	343.1	165.6	146.5	19.1
Arkansas	1,278.4	1,257.1	1,118.4	138.7	21.3	--	21.3
Florida	830.9	795.3	688.4	106.9	35.6	35.6	--
Georgia	2,535.2	2,509.3	2,218.5	290.8	25.9	25.9	--
Louisiana	1,610.2	1,552.9	1,336.1	216.8	57.3	32.2	25.1
Mississippi	1,800.5	1,704.3	1,345.9	358.4	96.2	84.0	12.2
North Carolina	1,818.3	1,711.1	1,407.4	303.7	107.2	84.4	22.8
Oklahoma	362.5	362.5	362.5	--	--	--	--
South Carolina	1,738.4	1,650.8	1,411.5	239.3	87.6	87.6	--
Tennessee	199.7	199.7	17.9	181.8	--	--	--
Texas	1,401.6	1,328.2	1,167.4	160.8	73.4	73.4	--
Virginia	957.6	862.2	550.0	312.2	95.4	38.1	57.3
All States	16,811.7	16,046.2	13,393.7	2,652.5	765.5	607.7	157.8

1/ Veneer cores, pole and piling trim, cull material, sawdust, and secondary residues.

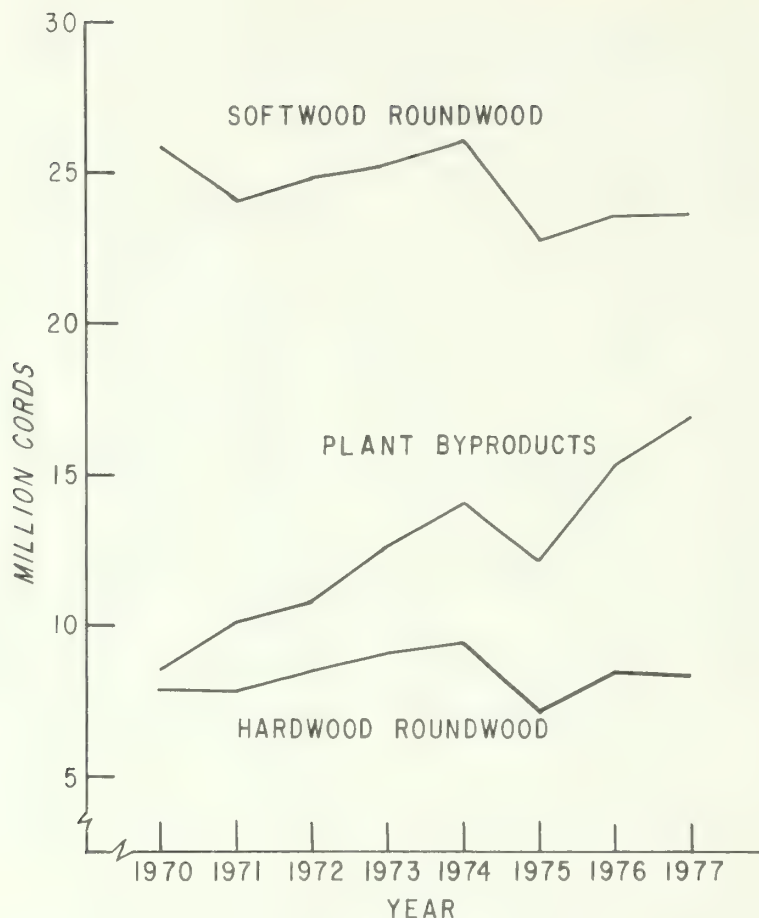


Figure 1. — Pulpwood production, 1970-1977.

Table 6.--Southern pulpwood production, by Experiment Station territory, 1977

Station and type of wood	All species	Softwood	Hardwood
- - - - Standard cords - - - -			
Southeastern: ^{1/}			
Roundwood	15,750,867	12,116,144	3,634,723
Plant byproducts	7,880,457	6,547,468	1,332,989
Total	23,631,324	18,663,612	4,967,712
Southern: ^{2/}			
Roundwood	16,296,170	11,541,100	4,755,070
Plant byproducts	8,931,324	7,453,949	1,477,375
Total	25,227,494	18,995,049	6,232,445
Both stations:			
Roundwood	32,047,037	23,657,244	8,389,793
Plant byproducts	16,811,781	14,001,417	2,810,364
Total	48,858,818	37,658,661	11,200,157

^{1/} States of Florida, Georgia, North Carolina, South Carolina, and Virginia.

^{2/} States of Alabama, Arkansas, Louisiana, Mississippi, Oklahoma, Tennessee, and Texas.

Table 7.--Round pulpwood production in Alabama, 1977

County	All species	Softwood	Hardwood	County	All species	Softwood	Hardwood
- - - - Standard cords - - - -				- - - - Standard cords - - - -			
Autauga	65,266	42,681	22,585	Jackson	29,811	3,166	26,645
Baldwin	174,269	137,943	36,326	Jefferson	43,032	36,439	6,593
Barbour	101,296	89,865	11,431	Lamar	45,300	40,662	4,638
Bibb	77,267	60,248	17,019	Lauderdale	7,585	4,103	3,482
Blount	33,784	24,599	9,185	Lawrence	14,261	8,040	6,221
Bullock	70,972	55,197	15,775	Lee	101,647	93,482	8,165
Butler	197,191	116,724	80,467	Limestone	3,527	2,312	1,215
Calhoun	50,026	46,925	3,101	Lowndes	71,730	45,975	25,755
Chambers	120,752	98,841	21,911	Macon	63,708	54,094	9,614
Cherokee	44,061	39,090	4,971	Madison	1,223	967	256
Chilton	80,964	68,544	12,420	Marengo	156,488	81,849	74,639
Choctaw	228,232	114,317	113,915	Marion	81,229	48,532	32,697
Clarke	159,753	91,871	67,882	Marshall	27,947	15,102	12,845
Clay	68,616	59,724	8,892	Mobile	47,441	35,143	12,298
Cleburne	52,634	44,505	8,129	Monroe	122,259	63,938	58,321
Coffee	71,874	53,718	18,156	Montgomery	57,142	44,842	12,300
Colbert	12,465	3,377	9,088	Morgan	8,026	3,082	4,944
Conecuh	120,380	62,095	58,285	Perry	57,014	35,069	21,945
Coosa	123,583	100,535	23,048	Pickens	92,344	52,630	39,714
Covington	93,109	69,661	23,448	Pike	117,486	95,707	21,779
Crenshaw	115,045	79,541	35,504	Randolph	68,182	55,650	12,532
Cullman	49,049	38,177	10,872	Russell	53,329	40,795	12,534
Dale	59,943	43,105	16,838	St. Clair	74,392	64,802	9,590
Dallas	87,690	54,743	32,947	Shelby	54,994	49,414	5,580
De Kalb	28,969	16,649	12,320	Sumter	13,447	7,666	5,781
Elmore	30,682	25,219	5,463	Talledega	66,230	61,074	5,156
Escambia	123,341	81,610	41,731	Tallapoosa	160,668	135,957	24,711
Etowah	17,797	16,934	863	Tuscaloosa	38,178	23,897	14,281
Fayette	43,244	36,388	6,856	Walker	95,815	81,339	14,476
Franklin	34,853	23,719	11,134	Washington	117,945	58,217	59,728
Geneva	48,224	38,894	9,330	Wilcox	85,730	44,198	41,532
Greene	31,408	18,879	12,529	Winston	69,657	58,197	11,460
Hale	39,411	18,457	20,954	All counties	4,793,643	3,392,969	1,400,674
Henry	50,628	39,212	11,416				
Houston	39,098	34,642	4,456				

Table 8.--Round pulpwood production in Arkansas, 1977

County ^{1/}	All species	Softwood	Hardwood	County ^{1/}	All species	Softwood	Hardwood
- - - - Standard cords - - - -				- - - - Standard cords - - - -			
Arkansas	246	202	44	Little River	95,787	59,283	36,504
Ashley	209,270	96,946	112,324	Logan	13,027	9,578	3,449
Boone	1	0	1	Miller	43,443	26,702	16,741
Bradley	16,831	16,174	657	Monroe	16	6	10
Calhoun	51,724	42,969	8,755	Montgomery	16,542	13,793	2,749
Chicot	8,742	3	8,739	Nevada	97,937	78,689	19,248
Clark	53,875	38,965	14,910	Newton	42	36	6
Cleburne	18,411	14,682	3,729	Ouachita	40,563	24,118	16,445
Cleveland	86,342	57,013	29,329	Perry	4,130	2,350	1,780
Columbia	132,660	111,220	21,440	Phillips	688	0	688
Conway	11,344	7,706	3,638	Pike	107,167	86,108	21,059
Crawford	3	0	3	Polk	36,811	18,935	17,876
Crittenden	1,562	0	1,562	Pope	19,727	12,223	7,504
Dallas	63,488	42,380	21,108	Prairie	24	0	24
Desha	8,083	17	8,066	Pulaski	51,004	23,125	27,879
Drew	117,285	43,013	74,272	Saline	68,912	44,042	24,870
Faulkner	1,319	1,166	153	Scott	25,987	20,871	5,116
Franklin	2,553	2,153	400	Searcy	118	118	0
Fulton	4	4	0	Sebastian	1,677	1,547	130
Garland	69,473	63,775	5,698	Sevier	34,697	19,894	14,803
Grant	111,351	60,041	51,310	Sharp	33	26	7
Greene	5	5	0	Stone	2,004	1,336	668
Hempstead	64,134	44,309	19,825	Union	89,611	67,540	22,071
Hot Spring	41,270	27,537	13,733	Van Buren	9,008	6,423	2,585
Howard	166,270	124,323	41,947	White	10,779	7,934	2,845
Independence	7,923	6,297	1,626	Yell	28,583	21,259	7,324
Izard	252	234	18	All counties	2,220,196	1,454,603	765,593
Jackson	76	53	23				
Jefferson	39,752	27,850	11,902				
Johnson	6,386	4,000	2,386				
Lafayette	50,131	36,191	13,940				
Lee	920	920	0				
Lincoln	80,193	38,519	41,674				

^{1/} Counties with no pulpwood production are omitted.

Table 9.--Round pulpwood production in Florida, 1977

County ^{1/}	All species	Softwood	Hardwood	County ^{1/}	All species	Softwood	Hardwood
- - - - Standard cords - - - -				- - - - Standard cords - - - -			
Alachua	81,902	74,944	6,958	Lake	2,860	2,860	0
Baker	79,586	79,318	268	Lee	5,980	5,980	0
Bay	43,869	43,548	321	Leon	29,535	24,959	4,576
Bradford	95,019	92,239	2,780	Levy	161,854	90,513	71,341
Brevard	225	225	0	Liberty	44,486	42,704	1,782
Broward	96	96	0	Madison	105,700	85,278	20,422
Calhoun	68,114	66,358	1,756	Manatee	6,473	6,473	0
Charlotte	981	981	0	Marion	89,312	76,649	12,663
Citrus	638	494	144	Nassau	148,233	139,822	8,411
Clay	60,578	57,758	2,820	Okaloosa	25,908	24,297	1,611
Collier	5,562	5,562	0	Okeechobee	1,237	1,237	0
Columbia	117,155	105,821	11,334	Orange	5,104	5,104	0
De Soto	18	18	0	Osceola	15,179	15,179	0
Dixie	78,740	58,615	20,125	Pasco	2,790	2,379	411
Duval	55,507	50,208	5,299	Polk	16,197	16,161	36
Escambia	64,145	63,319	826	Putnam	54,763	44,130	10,633
Flagler	30,767	21,767	9,000	St. Johns	131,946	113,707	18,239
Franklin	44,660	44,650	10	Santa Rosa	67,764	67,335	429
Gadsden	41,991	31,373	10,618	Sarasota	3,871	3,871	0
Gilchrist	54,691	52,292	2,399	Sumter	11,295	10,967	328
Glades	5,810	5,786	24	Suwannee	103,254	95,776	7,478
Gulf	16,322	16,141	181	Taylor	186,921	180,339	6,582
Hamilton	51,545	47,722	3,823	Union	52,741	52,704	37
Hardee	6,049	5,549	500	Volusia	46,034	44,934	1,100
Hendry	15,083	15,083	0	Wakulla	27,519	27,493	26
Hernando	6,706	5,871	835	Walton	107,134	93,202	13,932
Highlands	601	601	0	Washington	49,674	45,417	4,257
Hillsborough	3,849	3,849	0	All counties	2,799,352	2,513,674	285,678
Holmes	43,784	38,543	5,241				
Jackson	126,967	116,439	10,528				
Jefferson	57,319	55,844	1,475				
Lafayette	37,309	33,190	4,119				

^{1/} Counties with no pulpwood production are omitted.

Table 10.--Round pulpwood production in Georgia, 1977

County ^{1/}	All species	Softwood	Hardwood	County ^{1/}	All species	Softwood	Hardwood
- - - - Standard cords - - - -				- - - - Standard cords - - - -			
Appling	84,254	79,488	4,766	Fannin	19,617	11,476	8,141
Atkinson	80,583	79,796	787	Fayette	12,610	12,027	583
Bacon	61,652	61,615	37	Floyd	50,067	44,234	5,833
Baker	26,350	26,093	257	Forsyth	9,394	8,918	476
Baldwin	29,325	23,535	5,790	Franklin	40,625	25,852	14,773
Banks	9,610	9,543	67	Fulton	17,434	16,128	1,306
Barrow	23,215	22,561	654	Gilmer	15,581	12,189	3,392
Bartow	37,960	36,305	1,655	Glascok	3,038	2,728	310
Ben Hill	70,961	65,626	5,335	Glynn	57,977	50,059	7,918
Berrien	40,192	39,983	209	Gordon	37,126	35,543	1,583
Bibb	8,153	6,866	1,287	Grady	26,361	25,511	850
Bleckley	19,152	15,951	3,201	Greene	35,740	26,963	8,777
Brantley	58,663	57,082	1,581	Gwinnett	23,938	22,680	1,258
Brooks	43,499	40,992	2,507	Habersham	4,331	3,018	1,313
Bryan	38,018	36,561	1,457	Hall	17,977	17,820	157
Bulloch	31,434	31,021	413	Hancock	55,431	45,739	9,692
Burke	123,023	96,863	26,160	Haralson	33,348	29,387	3,961
Butts	55,263	46,529	8,734	Harris	46,682	43,775	2,907
Calhoun	24,155	21,903	2,252	Hart	1,112	1,112	0
Camden	128,559	94,534	34,025	Heard	19,847	18,840	1,007
Candler	17,022	15,051	1,971	Henry	29,056	25,907	3,149
Carroll	57,620	52,302	5,318	Houston	48,496	39,056	9,440
Catoosa	6,155	3,993	2,162	Irwin	5,848	5,848	0
Charlton	59,375	55,475	3,900	Jackson	29,630	28,810	820
Chatham	12,482	8,842	3,640	Jasper	38,844	37,563	1,281
Chattahoochee	18,781	15,485	3,296	Jeff Davis	46,601	27,326	19,275
Chattooga	33,894	28,604	5,290	Jefferson	48,592	45,166	3,426
Cherokee	33,985	31,456	2,529	Jenkins	54,223	52,711	1,512
Clarke	6,478	6,058	420	Johnson	24,175	22,528	1,647
Clay	38,840	32,424	6,416	Jones	32,032	29,534	2,498
Clayton	17	0	17	Lamar	12,860	12,391	469
Clinch	65,749	65,615	134	Lanier	18,679	18,616	663
Cobb	10,103	10,096	7	Laurens	129,236	102,851	26,385
Coffee	87,502	80,711	6,791	Lee	20,584	19,080	1,504
Colquitt	24,361	23,631	730	Liberty	64,955	55,665	9,290
Columbia	26,657	23,189	3,468	Lincoln	56,431	34,734	21,697
Cook	6,406	6,406	0	Long	58,413	53,821	4,592
Coweta	56,777	53,683	3,094	Lowndes	27,177	25,586	1,591
Crawford	87,022	69,959	17,063	Lumpkin	5,352	4,996	356
Crisp	14,871	14,542	329	McDuffie	9,270	8,420	850
Dade	104	104	0	McIntosh	45,586	43,290	2,296
Dawson	7,546	6,953	593	Macon	37,806	23,964	13,842
Decatur	94,812	72,486	22,326	Madison	19,875	18,574	1,301
De Kalb	1,154	1,154	0	Marion	39,863	34,554	5,309
Dodge	97,304	81,738	15,566	Meriwether	83,472	76,136	7,336
Dooly	43,848	40,569	3,279	Miller	12,504	9,913	2,591
Dougherty	32,682	30,530	2,152	Mitchell	42,480	40,997	1,483
Douglas	17,156	16,399	757	Monroe	40,462	36,162	4,300
Early	41,314	37,464	3,850	Montgomery	26,296	26,077	219
Echols	54,345	51,238	3,107	Morgan	28,810	27,860	950
Effingham	27,489	26,024	1,465	Murray	18,574	16,385	2,189
Elbert	39,905	34,589	5,316	Muscogee	2,872	2,729	143
Emanuel	52,273	51,536	737				
Evans	17,294	15,146	2,148				

Table 10.--Round pulpwood production in Georgia, 1977 (continued)

County ^{1/}	All species	Softwood	Hardwood	County ^{1/}	All species	Softwood	Hardwood
- - - Standard cords - - -				- - - Standard cords - - -			
Newton	15,352	15,352	0	Taylor	20,180	19,586	594
Oconee	22,462	21,987	475	Telfair	52,989	46,055	6,934
Oglethorpe	56,447	37,659	18,788	Terrell	27,952	25,451	2,501
Paulding	24,532	22,230	2,302	Thomas	62,962	50,454	12,508
Peach	2,052	2,052	0	Tift	19,494	13,194	6,300
Pickens	20,643	17,710	2,933	Toombs	49,467	45,227	4,240
Pierce	40,018	39,047	971	Towns	1,610	1,425	185
Pike	32,420	31,551	869	Treutlen	35,417	32,854	2,563
Polk	37,976	34,838	3,138	Troup	72,758	69,582	3,176
Pulaski	32,702	31,658	1,044	Turner	15,335	13,751	1,584
Putnam	43,842	39,107	4,735	Twiggs	28,545	24,870	3,675
Quitman	37,167	32,747	4,420	Union	15,790	9,697	6,093
Rabun	13,966	5,775	8,191	Upson	32,903	30,431	2,472
Randolph	91,511	60,705	30,806	Walker	16,013	14,869	1,144
Richmond	17,804	16,854	950	Walton	27,142	22,364	4,778
Schley	24,100	21,806	2,294	Ware	139,280	137,823	1,457
Screven	32,246	29,746	2,500	Warren	52,272	48,880	3,392
Seminole	12,465	9,166	3,299	Washington	54,610	46,591	8,019
Spalding	12,128	12,128	0	Wayne	111,499	99,524	11,975
Stephens	14,172	9,977	4,195	Webster	15,231	14,426	805
Stewart	94,950	80,735	14,215	Wheeler	54,248	52,890	1,358
Sumter	20,992	19,748	1,244	White	848	848	0
Talbot	62,276	54,532	7,744	Whitfield	29,882	26,580	3,302
Taliaferro	22,980	18,792	4,188	Wilcox	38,692	35,624	3,068
Tattnall	61,031	54,285	6,746	Wilkes	47,737	34,996	12,741
				Wilkinson	39,152	30,821	8,331
				Worth	49,396	46,601	2,795
				All counties	5,830,272	5,133,149	697,123

^{1/} Counties with no pulpwood production are omitted.

Table 11.--Round pulpwood production in Louisiana, 1977

Parish ^{1/}	All species	Softwood	Hardwood	Parish ^{1/}	All species	Softwood	Hardwood
- - - Standard cords - - -				- - - Standard cords - - -			
Acadia	3,370	3,033	337	Madison	15,946	6	15,940
Allen	44,451	32,390	12,061	Morehouse	37,843	20,485	17,358
Ascension	558	4	554	Natchitoches	94,180	84,442	9,738
Assumption	113	0	113	Ouachita	60,529	35,661	24,868
Average	18,849	3,118	15,731	Pointe Coupee	18,348	0	18,348
Beauregard	144,878	135,890	8,988	Rapides	163,721	137,100	26,621
Bienville	149,687	123,723	25,964	Red River	35,396	23,634	11,762
Bossier	98,917	78,796	20,121	Richland	4,334	126	4,208
Caddo	43,970	27,236	16,734	Sabine	137,029	125,186	11,843
Calcasieu	9,164	8,861	303	St. Helena	75,912	67,209	8,703
Caldwell	47,283	26,995	20,288	St. James	1,795	11	1,784
Cameron	322	313	9	St. Landry	8,019	8	8,011
Catahoula	41,462	11,421	30,041	St. Martin	736	8	728
Claiborne	101,319	79,214	22,105	St. Mary	22	12	10
Concordia	51,257	0	51,257	St. Tammany	43,549	41,051	2,498
De Soto	102,977	87,983	14,994	Tangipahoa	48,242	40,451	7,791
East Baton Rouge	6,883	3,807	3,076	Tensas	60,800	12	60,788
East Carroll	9,253	0	9,253	Union	155,229	108,862	46,367
East Feliciana	30,142	20,311	9,831	Vermilion	45	32	13
Evangeline	18,202	17,336	866	Vernon	147,954	140,250	7,704
Franklin	7,248	798	6,450	Washington	72,654	65,836	6,818
Grant	85,200	65,106	20,094	Webster	62,450	52,878	9,572
Iberia	62	0	62	West Baton Rouge	591	8	583
Iberville	308	0	308	West Carroll	1,635	580	1,055
Jackson	66,788	51,539	15,249	West Feliciana	10,850	3,629	7,221
Jefferson Davis	11,439	10,237	1,202	Winn	82,823	57,449	25,374
La Salle	91,537	74,563	16,974	All parishes	2,730,117	2,027,039	703,078
Lincoln	120,368	94,734	25,634				
Livingston	83,478	64,705	18,773				

^{1/} Parishes with no pulpwood production are omitted.

Table 12.--Round pulpwood production in Mississippi, 1977

County ^{1/}	All species	Softwood	Hardwood	County ^{1/}	All species	Softwood	Hardwood
- - - Standard cords - - -				- - - Standard cords - - -			
Adams	21,376	490	20,886	Lowndes	3,718	1,811	1,907
Alcorn	12,945	10,678	2,267	Madison	27,166	19,471	7,695
Amite	79,182	56,590	22,592	Marion	65,309	47,424	17,885
Attala	114,481	83,948	30,533	Marshall	72,131	67,279	4,852
				Monroe	23,777	23,607	170
Benton	22,362	15,731	6,631	Montgomery	30,686	20,490	10,196
Bolivar	2,309	0	2,309				
Calhoun	32,224	5,798	26,426	Neshoba	86,231	52,203	34,028
Carroll	36,597	21,912	14,685	Newton	80,332	52,229	28,103
Chickasaw	20,511	20,261	250	Noxubee	42,360	23,900	18,460
Choctaw	60,190	47,824	12,366				
Claiborne	36,546	10,607	25,939	Oktibbeha	25,812	19,272	6,540
Clarke	117,065	74,561	42,504	Panola	10,985	6,465	4,520
Clay	11,089	10,898	191	Pearl River	58,939	49,591	9,348
Coahoma	29	4	25	Perry	66,595	51,671	14,924
Copiah	97,127	7,146	26,981	Pike	88,665	70,399	18,266
Covington	44,828	28,304	16,524	Pontotoc	29,313	27,019	2,294
				Prentiss	29,147	24,843	4,304
Forrest	37,564	27,598	9,966				
Franklin	50,353	29,293	21,060	Quitman	20	9	11
George	28,529	19,498	9,031	Rankin	90,517	69,972	20,545
Greene	87,887	49,577	38,310				
Grenada	12,708	10,368	2,340	Scott	56,778	46,206	10,572
				Sharkey	255	11	244
Hancock	24,017	23,056	961	Simpson	92,679	72,161	20,518
Harrison	25,406	23,150	2,256	Smith	43,943	37,681	6,262
Hinds	45,798	18,373	27,425	Stone	43,876	29,273	14,603
Holmes	51,946	30,553	21,393	Sunflower	20	16	4
Humphreys	101	48	53				
				Tallahatchie	1,774	539	1,235
Issaquena	33,026	25	33,001	Tate	177	155	22
Itawamba	39,196	30,937	8,259	Tippah	32,027	29,149	2,878
				Tishomingo	30,314	24,164	6,150
Jackson	19,027	16,655	2,372	Tunica	10,207	3	10,204
Jasper	69,350	40,052	29,298				
Jefferson	52,762	19,695	33,067	Union	14,130	12,563	1,567
Jefferson Davis	35,813	31,493	4,320				
Jones	38,442	21,779	16,663	Walthall	42,024	24,294	17,730
				Warren	25,695	563	25,132
Kemper	101,471	60,778	40,693	Washington	16,792	5	16,787
				Wayne	73,817	39,611	34,206
Lafayette	19,054	11,573	7,481	Webster	47,106	46,419	687
Lamar	45,063	35,454	9,609	Wilkinson	63,662	11,890	51,772
Lauderdale	92,984	54,618	38,366	Winston	69,321	49,362	19,959
Lawrence	79,506	65,146	14,360				
Leake	85,792	60,075	25,717	Yalobusha	14,859	10,426	4,433
Lee	8,642	7,441	1,201	Yazoo	18,892	1,548	17,344
Leflore	2,071	464	1,607				
Lincoln	85,996	67,577	18,419	All counties	3,411,416	2,276,722	1,134,694

^{1/} Counties with no pulpwood production are omitted.

Table 13.--Round pulpwood production in North Carolina, 1977

County ^{1/}	All species	Softwood	Hardwood	County ^{1/}	All species	Softwood	Hardwood
Standard cords				Standard cords			
Alexander	8,581	1,378	7,203	Lee	17,120	12,093	5,027
Alleghany	10,753	5,786	4,967	Lenoir	24,301	19,473	4,828
Anson	1,416	138	1,278	Lincoln	28,603	24,823	3,780
Ashe	87,603	59,073	28,530	McDowell	11,857	7,160	4,697
Avery	805	33	772	Madison	4,399	1,086	3,313
Beaufort	1,090	57	1,033	Martin	62,979	53,743	9,236
Bertie	54,954	29,837	25,117	Mecklenburg	8,519	6,873	1,646
Bladen	63,262	22,472	40,790	Mitchell	218	11	207
Brunswick	66,827	38,350	28,477	Montgomery	22,655	10,761	11,894
Buncombe	71,628	51,238	20,390	Moore	45,265	30,297	14,968
Burke	22,712	8,263	14,449	Nash	31,988	12,950	19,038
Cabarrus	47,410	18,577	28,833	New Hanover	7,807	5,546	2,261
Caldwell	10,036	6,160	3,876	Northampton	37,429	13,252	24,177
Carteret	13,294	3,176	10,118	Onslow	35,917	32,844	3,073
Catawba	4,264	2,696	1,568	Orange	10,091	4,077	6,014
Chatham	25,711	18,905	6,806	Pamlico	24,485	16,271	8,214
Cherokee	11,255	30	11,225	Pasquotank	14,318	6,682	7,636
Chowan	8,950	7,583	1,367	Pender	49,084	36,069	13,015
Clay	85,362	53,331	32,031	Perquimans	17,522	5,583	11,939
Cleveland	27,300	14,295	13,005	Person	18,857	9,580	9,277
Columbus	16,086	4,630	11,456	Pitt	27,899	12,891	15,008
Craven	5,815	4,670	1,145	Polk	23,920	10,546	13,374
Cumberland	20,556	16,038	4,518	Randolph	8,097	4,863	3,234
Currituck	64,219	33,647	30,572	Richmond	30,797	17,859	12,938
Dare	243,249	183,262	59,987	Robeson	40,755	28,724	12,031
Davidson	34,046	25,635	8,411	Rockingham	7,197	3,270	3,927
Duplin	4,681	331	4,350	Rutherford	7,905	5,400	2,505
Durham	7,493	7,464	29	Sampson	59,660	34,990	24,670
Edgecombe	18,302	11,032	7,270	Scotland	90,037	59,894	30,143
Forsyth	2,744	1,416	1,328	Stanly	12,906	10,559	2,347
Franklin	99,639	77,060	22,579	Stokes	19,246	12,040	7,206
Gates	31,489	19,662	11,827	Surry	4,948	2,099	2,849
Graham	23,854	13,628	10,226	Swain	2,134	1,152	982
Granville	8,934	6,694	2,240	Transylvania	4,358	2,997	1,361
Greene	68,555	46,668	21,887	Tyrrell	12,599	225	12,374
Guilford	26,796	18,060	8,736	Union	12,717	10,463	2,254
Halifax	17,494	7,656	9,838	Vance	36,479	26,367	10,112
Harnett	2,393	751	1,642	Wake	5,496	2,737	2,759
Haywood	56,375	36,347	20,028	Warren	69,997	43,562	26,435
Henderson	9,867	4,537	5,330	Washington	36,461	25,952	10,509
Hertford	8,256	4,443	3,813	Watauga	24,763	13,732	11,031
Hoke	41,290	23,444	17,846	Wayne	490	3	487
Hyde	14,000	7,092	6,908	Wilkes	16,969	6,468	10,501
Iredell	6,687	487	6,200	Wilson	29,554	8,189	21,365
Jackson	8,535	2,323	6,212	Yadkin	55,032	30,321	24,711
Johnston	30,472	11,744	18,728	Yancey	10,006	5,460	4,546
Kanawha	19,643	17,160	2,483	All counties	1,554	61	1,493
Lenoir	11,321	9,541	1,780		2,757,816	1,680,674	1,077,142

^{1/} Counties with no pulpwood production are omitted.

Table 14.--Round pulpwood production in Oklahoma, 1977

County ^{1/}	All species	Softwood	Hardwood
- - - Standard cords - - -			
Choctaw	1,676	442	1,234
Latimer	586	586	0
Le Flore	49,384	38,748	10,636
Lincoln	1,234	0	1,234
McCurtain	174,260	127,265	46,995
Mayes	3,767	0	3,767
Okfuskee	514	0	514
Pushmataha	97,409	64,520	32,889
Wagoner	801	0	801
All counties	329,631	231,561	98,070

^{1/} Counties with no pulpwood production are omitted.

Table 15.--Round pulpwood production in South Carolina, 1977

County	All species	Softwood	Hardwood	County	All species	Softwood	Hardwood
- - - Standard cords - - -				- - - Standard cords - - -			
Abbeville	111,978	79,515	32,463	Jasper	52,137	41,684	10,453
Aiken	57,313	51,752	5,561	Kershaw	125,334	84,908	40,426
Allendale	27,664	24,322	3,342	Lancaster	62,568	49,430	13,138
Anderson	81,268	65,912	15,356	Laurens	67,748	55,145	12,603
Bamberg	33,307	30,753	2,554	Lee	15,617	10,685	4,932
Barnwell	56,722	55,876	846	Lexington	38,138	34,149	3,989
Beaufort	12,528	10,161	2,367	McCormick	103,789	88,399	15,390
Berkeley	41,945	33,458	8,487	Marion	22,748	9,775	12,973
Calhoun	5,944	5,112	832	Marlboro	45,179	21,359	23,820
Charleston	27,540	17,740	9,800	Newberry	99,165	69,919	29,246
Cherokee	23,030	17,861	5,169	Oconee	33,439	19,065	14,374
Chester	116,491	100,777	15,714	Orangeburg	100,410	40,071	60,339
Chesterfield	110,531	85,802	24,729	Pickens	22,971	13,959	9,012
Clarendon	43,402	40,880	2,522	Richland	62,454	53,893	8,561
Colleton	75,989	36,537	39,452	Saluda	24,388	17,375	7,013
Darlington	24,634	12,364	12,270	Spartanburg	63,973	52,528	11,445
Dillon	32,118	25,919	6,199	Sumter	26,938	19,493	7,445
Dorchester	30,200	9,500	20,700	Union	85,989	64,490	21,499
Edgefield	83,365	67,428	15,937	Williamsburg	50,405	33,034	17,371
Fairfield	134,854	107,974	26,880	York	77,556	61,368	16,188
Florence	27,952	14,769	13,183	All counties	2,683,178	1,962,989	720,189
Georgetown	75,422	58,749	16,673				
Greenville	20,125	16,500	3,625				
Greenwood	113,526	63,685	49,841				
Hampton	47,825	29,202	18,623				
Horry	86,559	59,712	26,847				

Table 16 --Round pulpwood production in Tennessee, 1977

County ¹	All species	Softwood	Hardwood	County ¹	All species	Softwood	Hardwood
- - - Standard cords - - -				- - - Standard cords - - -			
Anderson	3,233	2,306	927	Johnson	3,388	175	3,213
Benton	22,231	4,849	17,382	~~Franklin~~	7,537	6,297	1,240
Bledsoe	5,416	4,815	601	Lauderdale	293	6	287
Bradley	11,634	9,858	1,776	Lawrence	8,509	3,338	5,171
Campbell	625	0	625	Lewis	2,636	2,620	16
Carroll	3,152	4	3,148	Loudon	2,770	1,897	873
Carter	4,481	232	4,249	McMinn	25,672	22,803	2,869
Chester	1,437	1,227	210	McNairy	9,688	7,921	1,767
Claiborne	2,295	119	2,176	Macon	1,491	0	1,491
Clay	33	0	33	Madison	104	104	0
Cocke	9,979	3,010	6,969	Marion	4,509	0	4,509
Coffee	3,287	3,287	0	Meigs	11,065	6,177	4,888
Cumberland	13,611	7,496	6,115	Monroe	18,695	15,442	3,253
Decatur	2,601	720	1,881	Morgan	12,267	6,024	6,243
Dickson	5,468	0	5,468	Obion	610	0	610
Dyer	84	0	84	Perry	7,377	597	6,780
Fentress	6,802	3,480	3,322	Pickett	2,674	0	2,674
Franklin	7,871	0	7,871	Polk	9,669	7,250	2,419
Gibson	442	0	442	Putnam	6,848	0	6,848
Giles	6,700	6,065	635	Rhea	12,310	6,888	5,422
Grainger	1,485	0	1,485	Roane	14,844	10,989	3,855
Greene	7,094	497	6,597	Scott	4,943	3,552	1,391
Grundy	34,022	5,257	28,765	Sequatchie	1,479	858	621
Hamblen	990	0	990	Sevier	162	118	44
Hamilton	7,977	5,816	2,161	Stewart	1,319	0	1,319
Hancock	3,621	201	3,420	Sullivan	1,312	68	1,244
Hardeman	4,688	4,006	682	Unicoi	1,530	79	1,451
Hardin	18,705	15,782	2,923	Warren	491	491	0
Hawkins	1,312	68	1,244	Wayne	46,165	13,215	32,950
Henry	3,114	71	3,043	Weakley	2,763	93	2,670
Hickman	1,585	0	1,585	White	2,418	0	2,418
Houston	6,763	0	6,763	All counties	470,898	213,884	257,014
Humphreys	23,384	0	23,384				
Jefferson	100	87	13				

^{1/} Counties with no pulpwood production are omitted.

Table 17.--Round pulpwood production in Texas, 1977

County ^{1/}	All species	Softwood	Hardwood	County ^{1/}	All species	Softwood	Hardwood
- - - Standard cords - - -				- - - Standard cords - - -			
Anderson	26,629	26,261	368	Nacogdoches	94,983	81,833	13,150
Angelina	93,049	80,981	12,068	Newton	142,141	99,153	42,988
Bowie	28,361	17,221	11,140	Orange	10,520	8,743	1,777
Camp	17,652	16,431	1,221	Panola	57,150	49,407	7,743
Cass	120,363	89,150	31,213	Polk	133,639	109,671	23,968
Chambers	209	209	0	Red River	14,409	8,531	5,878
Cherokee	99,650	93,822	5,828	Rusk	71,930	58,945	12,985
Franklin	1,210	1,045	165	Sabine	30,502	24,362	6,140
Gregg	38,905	37,052	1,853	San Augustine	91,602	73,820	17,782
Grimes	7,340	7,340	0	San Jacinto	28,546	26,209	2,337
Hardin	92,318	64,980	27,338	Shelby	139,356	123,082	16,274
Harris	2,043	1,021	1,022	Smith	52,865	52,665	200
Harrison	62,845	50,599	12,246	Titus	7,247	7,024	223
Henderson	4,085	2,929	1,156	Trinity	171,628	167,021	4,607
Hopkins	7	7	0	Tyler	124,502	96,902	27,600
Houston	88,743	75,414	13,329	Upshur	63,186	60,858	2,328
Jasper	126,886	96,568	30,318	Van Zandt	11	11	0
Jefferson	6,254	3,430	2,824	Walker	35,124	28,215	6,909
Liberty	46,205	37,845	8,360	Waller	154	0	154
Madison	7,196	7,196	0	Wood	19,812	17,985	1,827
Marion	100,459	75,673	24,786	All counties	2,340,269	1,944,322	395,947
Montgomery	38,526	31,871	6,655				
Morris	42,027	32,840	9,187				

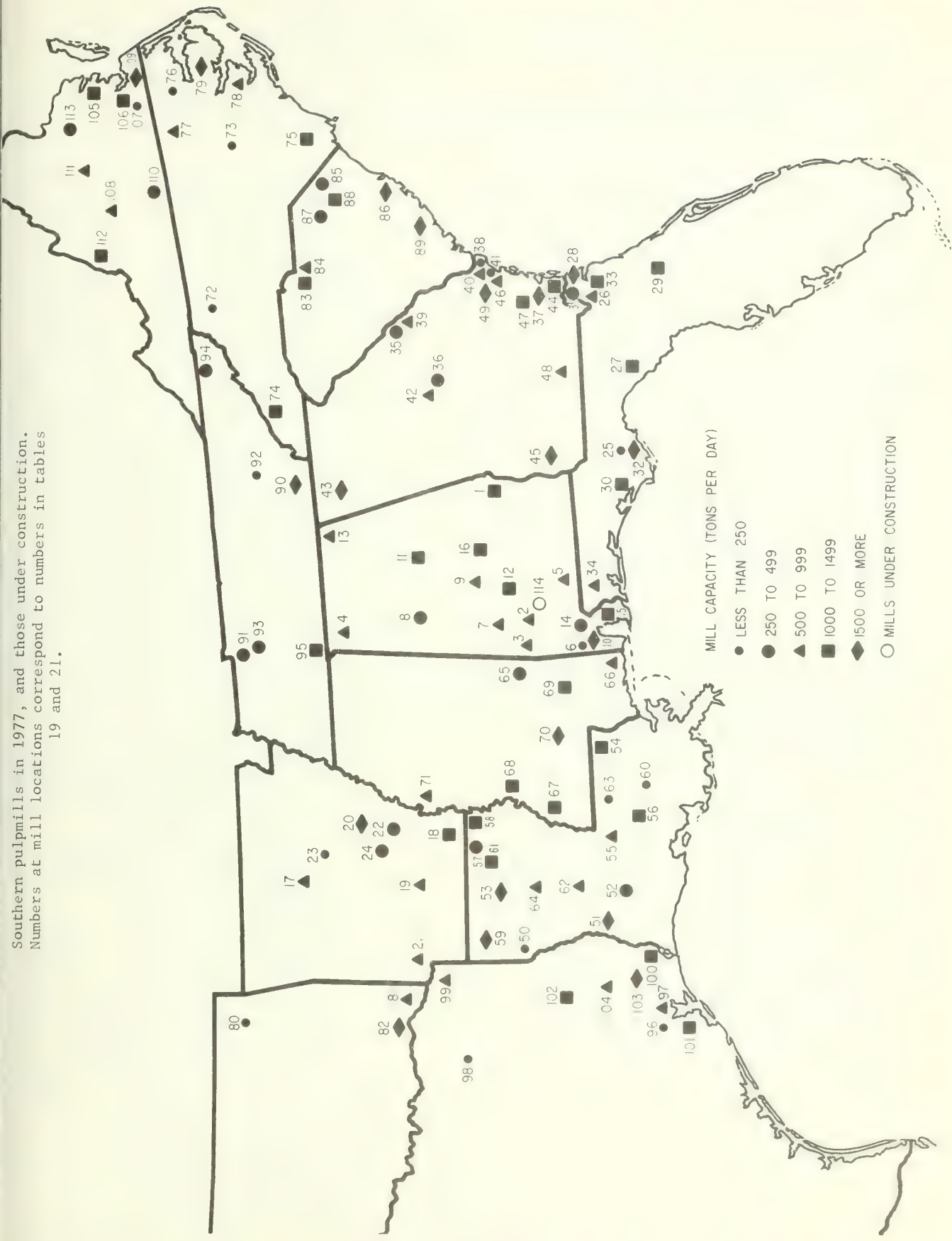
^{1/} Counties with no pulpwood production are omitted.

Table 18.--Round pulpwood production in Virginia, 1977

County ^{1/}	All species	Softwood	Hardwood	County ^{1/}	All species	Softwood	Hardwood
- - - - Standard cords - - - -				- - - - Standard cords - - - -			
Accomack	13,382	13,366	16	Lancaster	2,745	2,603	142
Albemarle	37,615	16,415	21,200	Lee	5,124	270	4,854
Alleghany	15,893	2,056	13,837	Loudoun	8	0	8
Amelia	28,854	13,606	15,248	Louisa	20,413	14,659	5,754
Amherst	42,213	10,028	32,185	Lunenburg	52,361	14,910	37,451
Appomattox	59,861	30,428	29,433	Madison	41	17	24
Arlington	4,569	24	4,545	Mathews	4,602	2,539	2,063
Augusta	13,441	4,108	9,333	Mecklenburg	39,375	26,584	12,791
Bath	22,230	2,786	19,444	Middlesex	5,457	3,606	1,851
Bedford	39,687	7,495	32,192	Montgomery	513	29	484
Bland	6	4	2	Nelson	67,702	24,157	43,545
Botetourt	23,209	3,494	19,715	New Kent	14,482	8,499	5,983
Brunswick	55,502	36,421	19,081	Newport News	80	80	0
Buchanan	83	73	10	Northampton	4,086	1,570	2,516
Buckingham	127,644	55,271	72,373	Northumberland	943	886	57
Campbell	54,564	30,787	23,777	Nottoway	30,827	20,506	10,321
Caroline	26,003	15,875	10,128	Orange	7,663	3,190	4,473
Carroll	20	14	6	Page	35	25	10
Charles City	19,045	10,281	8,764	Patrick	2,360	1,533	827
Charlotte	34,783	20,125	14,658	Pittsylvania	56,974	39,070	17,904
Chesapeake	18,570	5,059	13,511	Powhatan	5,736	2,987	2,749
Chesterfield	19,324	10,852	8,472	Prince Edward	43,135	29,934	13,201
Clarke	415	5	410	Prince George	35,728	11,990	23,738
Craig	14,445	2,299	12,146	Prince William	6,947	5,478	1,469
Culpeper	3,170	3,022	148	Pulaski	970	37	933
Cumberland	40,389	29,000	11,389	Rappahannock	38	38	0
Dinwiddie	34,374	13,128	21,246	Richmond	4,662	4,129	533
Essex	15,758	12,948	2,810	Roanoke	2,017	199	1,818
Fairfax	20	11	9	Rockbridge	33,805	6,781	27,024
Fauquier	9,851	9,453	398	Rockingham	6,674	1,787	4,887
Floyd	5,450	45	5,405	Scott	2,952	153	2,799
Fluvanna	25,501	17,156	8,345	Shenandoah	3,512	2,238	1,274
Franklin	28,659	14,474	14,185	Smyth	3,813	198	3,615
Frederick	8,206	6,586	1,620	Southampton	33,368	14,938	18,430
Giles	9	3	6	Spotsylvania	20,405	15,724	4,681
Gloucester	6,741	5,287	1,454	Stafford	8,083	1,983	6,100
Goochland	21,096	16,562	4,534	Suffolk	21,965	7,622	14,343
Grayson	9	9	0	Surry	14,907	4,574	10,333
Greene	1,304	965	339	Sussex	30,816	18,765	12,051
Greensville	23,791	11,747	12,044	Virginia Beach	1,573	509	1,064
Halifax	29,718	14,456	15,262	Warren	9,440	4,299	5,141
Hanover	18,533	11,327	7,206	Washington	4,248	221	4,027
Henrico	3,483	2,014	1,469	Westmoreland	2,534	2,445	89
Henry	25,061	15,098	9,963	Wise	3,812	198	3,614
Highland	5,029	188	4,841	Wythe	2,614	136	2,478
Isle of Wight	17,859	5,596	12,263	York	2,938	2,208	730
James City	7,704	4,490	3,214	All counties	1,680,249	825,658	854,591
King and Queen	34,674	23,925	10,749				
King George	4,666	4,172	494				
King William	15,353	8,820	6,533				

^{1/} Counties with no pulpwood production are omitted.

Southern pulpmills in 1977, and those under construction.
 Numbers at mill locations correspond to numbers in tables
 19 and 21.



- MILL CAPACITY (TONS PER DAY)
- LESS THAN 250
 - ▲ 250 TO 499
 - 500 TO 999
 - ◆ 1000 TO 1499
 - ◆ 1500 OR MORE
 - MILLS UNDER CONSTRUCTION

Table 19.--Southern pulpmills, by process and capacity, 1977

		Map code	Company	Pulping capacity, 24 hours ^{2/}				
				All processes	Sulfate	Groundwood: and other mechanical	Semi- chemical	Soda and sulfite
				Tons				
Mahrt	(1)		Alabama Kraft Co.	1,000	1,000	--	--	--
Jackson	(2)		Allied Paper Inc.	600	600	--	--	--
Naheola	(3)		American Can Co.	900	900	--	--	--
Courtland	(4)		Champion International Corp.	600	600	--	--	--
	(5)		Container Corp. of America	800	800	--	--	--
Mobile	(6)		GAF Corp.	50	--	50	--	--
			Gulf States Paper Corp.	500	500	--	--	--
Tuscaloosa			Gulf States Paper Corp.	450	450	--	--	--
Riverdale	(9)		Hammermill Paper Co.	530	530	--	--	--
Mobile	(10)		International Paper Co.	1,500	1,200	300	--	--
Coosa Pines	(11)		Kimberly-Clark Corp.	1,425	485	940	--	--
Pine Hill	(12)		McMillan Bloedel Inc.	1,100	1,100	--	--	--
Stevenson	(13)		Mead Paperboard	650	--	--	650	--
Mobile	(14)		National Gypsum Co.	375	--	200	175	--
Mobile	(15)		Scott Paper Co.	1,400	1,400	--	--	--
Montgomery	(16)		Union Camp Corp.	1,000	1,000	--	--	--
Total				12,880	10,565	1,490	825	--
ARKANSAS								
Morrilton	(17)		Arkansas Kraft Corp.	800	800	--	--	--
Crossett	(18)		Georgia-Pacific Corp.	1,410	1,410	--	--	--
Camden	(19)		International Paper Co.	750	750	--	--	--
Pine Bluff	(20)		International Paper Co.	1,700	1,300	400	--	--
	(21)		Nekoosa Papers Inc.	550	550	--	--	--
McGehee	(22)		Potlatch Corp.	450	450	--	--	--
Little Rock	(23)		Superwood Corp.	140	--	140	--	--
Pine Bluff	(24)		Weyerhaeuser Co.	250	250	--	--	--
Total				6,050	5,510	540	--	--
FLORIDA								
Blountstown	(25)		Abitibi Corp.	200	--	200	--	--
Jacksonville	(26)		Alton Box Board Co.	625	625	--	--	--
Foley	(27)		The Buckeye Cellulose Corp.	1,000	1,000	--	--	--
Fernandina Beach	(28)		Container Corp. of America	1,700	1,700	--	--	--
Palatka	(29)		Hudson Pulp and Paper Corp.	1,050	1,050	--	--	--
Panama City	(30)		International Paper Co.	1,415	1,415	--	--	--
Fernandina Beach	(31)		I.T.T. Rayonier Inc.	400	--	--	--	400
Port St. Joe	(32)		St. Joe Paper Co.	1,700	1,700	--	--	--
Jacksonville	(33)		St. Regis Paper Co.	1,400	1,400	--	--	--
Pensacola	(34)		St. Regis Paper Co.	900	900	--	--	--
Total				10,390	9,790	200	--	400
MISSISSIPPI								
Augusta	(35)		Abitibi Southern Corp.	375	--	375	--	--
Macon	(36)		Armstrong Cork Co.	400	--	400	--	--
Brunswick	(37)		Brunswick Pulp and Paper Co.	1,640	1,640	--	--	--
Savannah	(38)		Certain-teed Products Corp.	80	--	--	80	--
Augusta	(39)		Continental Forest Industries	700	700	--	--	--
Port Wentworth	(40)		Continental Forest Industries	675	675	--	--	--
Savannah	(41)		GAF Corp.	48	--	48	--	--
Macon	(42)		Georgia Kraft Co., Mead Div.	900	900	--	--	--
Rome	(43)		Georgia Kraft Co., Krannert Div.	1,600	1,600	--	--	--
St. Marys	(44)		Gilman Paper Co., St. Marys Kraft Div.	1,100	1,100	--	--	--
Cedar Springs	(45)		Great Southern Paper Co.	2,025	1,700	--	325	--
Riceboro	(46)		Interstate Paper Corp.	550	550	--	--	--
	(47)		I.T.T. Rayonier Inc.	1,266	1,266	--	--	--
Valdosta	(48)		Owens-Illinois, Forest Products Div.	875	875	--	--	--
Savannah	(49)		Union Camp Corp.	3,000	2,600	--	400	--
Total				15,234	13,606	823	805	--

continue

Table 19.--Southern pulpmills, by process and capacity, 1977 (Continued)

Location	Map code ^{1/}	Company	Pulping capacity, 24 hours ^{2/}				
			All processes	Sulfate	Groundwood: and other mechanical	Semi- chemical	Soda and sulfite
			Tons				
LOUISIANA							
Shreveport	(50)	Bird and Son, Inc.	225	--	--	225	--
DeRidder	(51)	Boise Southern Co.	1,500	1,050	450	--	--
Elizabeth	(52)	Calkraft Paper Co.	305	305	--	--	--
Hodge	(53)	Continental Forest Industries	1,650	1,400	--	250	--
Bogalusa	(54)	Crown Zellerbach Corp.	1,450	1,300	--	150	--
St. Francisville	(55)	Crown Zellerbach Corp.	500	500	--	--	--
Port Hudson	(56)	Georgia-Pacific Corp.	1,240	1,240	--	--	--
Bastrop	(57)	International Paper Co. (Bastrop Mill)	485	--	--	485	--
Bastrop	(58)	International Paper Co. (Louisiana Mill)	1,100	1,100	--	--	--
Springhill	(59)	International Paper Co.	1,625	1,625	--	--	--
New Orleans	(60)	Masonite Corp.	130	--	130	--	--
West Monroe	(61)	Olinkraft, Inc.	1,400	1,150	--	250	--
Pineville	(62)	Pineville Kraft Corp.	900	900	--	--	--
St. Francisville	(63)	St. Francisville Paper Co.	210	--	210	--	--
Campti	(64)	Western Kraft Corp.	750	750	--	--	--
Total			13,470	11,320	790	1,360	--
MISSISSIPPI							
Meridian	(65)	The Flintkote Co.	250	--	200	50	--
Moss Point	(66)	International Paper Co.	700	700	--	--	--
Natchez	(67)	International Paper Co.	1,000	1,000	--	--	--
Vicksburg	(68)	International Paper Co.	1,200	1,200	--	--	--
Laurel	(69)	Masonite Corp.	1,200	--	1,200	--	--
Monticello	(70)	St. Regis Paper Co.	1,620	1,620	--	--	--
Greenville	(71)	United States Gypsum Co.	500	--	500	--	--
Total			6,470	4,520	1,900	50	--
NORTH CAROLINA							
Roaring River	(72)	Abitibi Corp.	120	--	120	--	--
Goldsboro	(73)	The Celotex Corp.	110	--	110	--	--
Canton	(74)	Champion International Corp.	1,365	1,365	--	--	--
Riegelwood	(75)	Federal Paper Board Co., Inc.	1,450	1,450	--	--	--
Conway	(76)	Georgia-Pacific Corp.	200	--	200	--	--
Roanoke Rapids	(77)	Hoerner Waldorf Div., Champion International Corp.	940	940	--	--	--
New Bern	(78)	Weyerhaeuser Co.	725	725	--	--	--
Plymouth	(79)	Weyerhaeuser Co.	1,900	1,650	--	250	--
Total			6,810	6,130	430	250	--
OKLAHOMA							
Pryor	(80)	Georgia-Pacific Corp.	150	--	150	--	--
Broken Bow	(81)	Weyerhaeuser Co.	520	--	520	--	--
Valiant	(82)	Weyerhaeuser Co.	2,300	1,500	--	800	--
Total			2,970	1,500	670	800	--
SOUTH CAROLINA							
Catawba	(83)	Bowaters Carolina Corp.	1,150	1,000	150	--	--
Catawba	(84)	Catawba Newsprint Co.	500	--	500	--	--
Marion	(85)	The Celotex Corp.	360	--	360	--	--
Georgetown	(86)	International Paper Co.	2,130	1,650	--	480	--
Hartsville	(87)	Sonoco Products Co.	417	--	--	417	--
Florence	(88)	South Carolina Industries, Inc.	1,400	1,400	--	--	--
Charleston	(89)	Westvaco Corp.	1,950	1,950	--	--	--
Total			7,907	6,000	1,010	897	--

continued

Table 19.--Southern pulp mills, by process and capacity, 1977 (Continued)

Location	Map code ^{1/}	Company	Pulping capacity, 24 hours ^{2/}				
			All processes	Sulfate	:Groundwood: and other :mechanical:	Semi- chemical	Soda and sulfite
			----- Tons -----				
TENNESSEE							
Calhoun	(90)	Bowaters Southern Paper Corp.	1,625	500	925	200	--
Paris	(91)	The Celotex Corp.	300	--	--	300	--
Harriman	(92)	Harriman Paperboard Corp.	190	--	--	190	--
New Johnsonville	(93)	Inland Container Corp.	450	--	--	450	--
Kingsport	(94)	Mead Paper	250	--	--	--	250
Counce	(95)	Tennessee River Pulp and Paper Co.	1,200	1,200	--	--	--
Total			4,015	1,700	925	1,140	250
TEXAS							
Houston	(96)	The Celotex Corp.	50	--	50	--	--
Pasadena	(97)	Champion International Corp.	830	750	80	--	--
Dallas	(98)	GAF Corp.	70	--	70	--	--
Texarkana	(99)	International Paper Co.	575	575	--	--	--
Orange	(100)	Owens-Illinois, Forest Products Div.	1,000	1,000	--	--	--
Houston	(101)	Southland Paper Mills, Inc.	1,450	650	800	--	--
Lufkin	(102)	Southland Paper Mills, Inc.	1,200	400	800	--	--
Evadale	(103)	Temple-EasTex Inc.	1,550	1,550	--	--	--
Diboll	(104)	Temple Industries	715	--	715	--	--
Total			7,440	4,925	2,515	--	--
VIRGINIA							
West Point	(105)	The Chesapeake Corp. of Virginia	1,150	1,150	--	--	--
Hopewell	(106)	Continental Forest Industries	1,054	874	--	180	--
Jarratt	(107)	Georgia-Pacific Corp.	240	--	240	525	--
Big Island	(108)	Owens-Illinois, Forest Products Div.	525	--	--	--	--
Franklin	(109)	Union Camp Corp.	1,800	1,800	--	--	--
Danville	(110)	United States Gypsum Co.	375	--	375	--	--
Riverville	(111)	Virginia Fiber Corp.	510	--	--	510	--
Covington	(112)	Westvaco Corp.	1,304	1,144	--	160	--
Doswell	(113)	Weyerhaeuser Co.	300	--	300	--	--
Total			7,258	4,968	915	1,375	--
Total South			100,894	80,534	12,208	7,502	650

^{1/} Corresponds to numbers at locations on mill capacity map, page 17.^{2/} Southern Pulp and Paper Manufacturer, vol. 40, No. 10 (October 1977); and other sources.

Table 20.--Other mills using southern pulpwood in 1977, by process and capacity

Location	Company	Pulping capacity, 24 hours				
		All	Sulfate	Groundwood	Semi-	Soda
		processes		and other	chemical	and
				mechanical	sulfite	
----- Tons -----						
ILLINOIS						
Wilmington	The Celotex Corp.	30	--	30	--	--
Joliet	GAF Corp.	240	--	240	--	--
KENTUCKY						
Wickliffe	Westvaco Corp.	600	600	--	--	--
MARYLAND						
Luke	Westvaco Corp.	758	758	--	--	--
MISSOURI						
Kansas City	GAF Corp.	90	--	90	--	--
OHIO						
Franklin	Bird and Son, Inc.	60	--	60	--	--
Milan	Certain-teed Products Corp.	90	--	90	--	--
Chillicothe	The Mead Corp.	600	600	--	--	--
PENNSYLVANIA						
Roaring Spring	Appleton Papers, Inc.	180	180	--	--	--
York	Certain-teed Products Corp.	50	--	50	--	--
Spring Cove	P. H. Glatfelter Co.	500	500	--	--	--

Table 21.--Pulpmills under construction in the South

Location	Map code ^{1/}	Company	Pulping capacity, 24 hours
----- Tons -----			

ALABAMA

Claiborne (114) Alabama River Pulp Co. 1,000

^{1/} Corresponds to numbers at location on mill capacity map, page 17.

Bellamy, Thomas R.

1978. Southern pulpwood production, 1977. U.S. Dep. Agric. For. Serv., Resour. Bull. SE-46, 21 p. Southeast. For. Exp. Stn., Asheville, N.C.

Southern pulpwood production increased 3 percent in 1977 to 48.9 million cords. Roundwood production increased slightly while use of plant byproducts rose 9 percent. The use of plant byproducts continues to increase and now contributes 34 percent of the total. Pulping capacity increased to 100,894 tons per day.

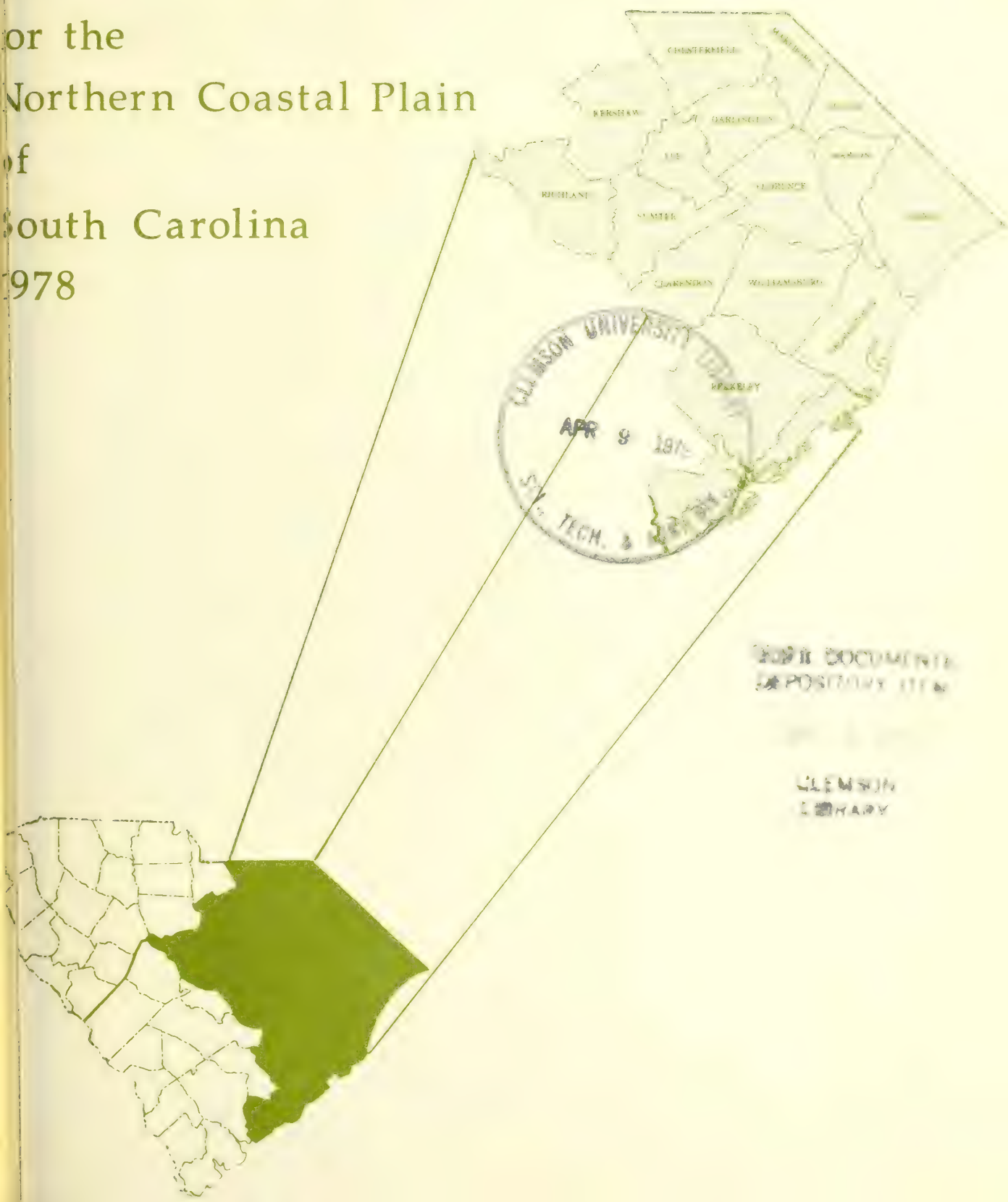
Keywords: Pulpwood, roundwood, plant byproducts, pulping capacity.



The Forest Service, U.S. Department of Agriculture, is dedicated to the principle of multiple management of the Nation's forest resources for sustained yields of wood, water, forage, wildlife, and recreation. Through forestry research, cooperation with the States and private forest owners, and management of the National Forest and Grasslands, it strives - as directed by Congress - to provide increasingly greater service to a growing Nation.

USDA policy does not permit discrimination because of race, color, national origin, sex or religion. Any person who believes he or she has been discriminated against in any USDA-related activity should write immediately to the Secretary of Agriculture, Washington, D.C. 20250.

Forest Statistics for the Northern Coastal Plain of South Carolina 1978



FOREWORD

This report highlights the principal findings of the fifth forest inventory of the Northern Coastal Plain of South Carolina. Fieldwork began in September 1977 and was completed in April 1978. Four previous inventories, completed in 1936, 1947, 1958, and 1968, provide the basis for measuring changes and trends over the past 42 years. The primary emphasis in this report is on the changes and trends since 1968. Previously reported figures have been adjusted to provide the best estimate of change.

Renewable Resources Evaluation (formerly Forest Survey) is authorized by the Forest and Rangeland Renewable Resources Research Act of 1978. The inventory is a continuing, nationwide undertaking by the regional experiment stations of the Forest Service, USDA. In Florida, Georgia, North Carolina, South Carolina, and Virginia, Renewable Resources Evaluation is administered through the Southeastern Forest Experiment Station, with headquarters in Asheville, North Carolina. The primary objective of the survey is to periodically inventory and evaluate the forest and related resources. These inventories provide information on the extent and condition of forest lands, volume of timber, and rates of timber growth and removals. These evaluations help provide a basis for the formulation of forest policies and programs and for the orderly development and use of the resources.

The 16-county area covered by this report is one of three survey units in South Carolina. A similar report, USDA Forest Service Resource Bulletin SE-45, has been issued for the Piedmont unit, and a comparable report for the Southern Coastal Plain will be issued as the Statewide inventory continues. When completed, this inventory will provide updated statistics on timber and related resources for all of South Carolina.

The Southeastern Station gratefully acknowledges the cooperation of the South Carolina Commission of Forestry. Appreciation is also expressed for the excellent cooperation of other public agencies, forest industry, and private landowners in providing information and access to the sample locations.


JOE P. McCLURE
Project Leader

January 1979

Southeastern Forest Experiment Station
Asheville, North Carolina

Forest Statistics
for the
Northern Coastal Plain of
South Carolina
1978

by
Gerald C. Craver
Forestry Technician

CONTENTS

	<u>Page</u>
HIGHLIGHTS	1
HOW THE INVENTORY IS MADE... ..	3
RELIABILITY OF THE DATA	4
DEFINITIONS OF TERMS	6
COUNTY TABLES	
1. Area, by land class	13
2. Area of commercial forest land, by ownership class	14
3. Area of commercial forest land, by forest-type group	15
4. Area of commercial forest land, by stand-size class	16
5. Area of commercial forest land, by site class	16
6. Area of commercial forest land, by stocking classes of growing-stock trees	17
7. Volume of sawtimber and growing stock on commercial forest land, by species group	18
8. Net annual growth of sawtimber and growing stock on commercial forest land, by species group	19
9. Annual removals of sawtimber and growing stock on commercial forest land, by species group	20
UNIT TABLES	
10. Area of commercial forest land, by forest type and ownership class	21
11. Area of commercial forest land, by ownership and stocking classes of growing-stock trees	21
12. Volume of timber on commercial forest land, by class and species group	22
13. Number of growing-stock trees on commercial forest land, by species and diameter class	23
14. Volume of all live trees on commercial forest land, by species and diameter class	24
15. Volume of growing stock on commercial forest land, by species and diameter class	25
16. Volume of sawtimber on commercial forest land, by species and diameter class	26
17. Net annual growth and removals of growing stock on commercial forest land, by species	27
18. Net annual growth and removals of sawtimber on commercial forest land, by species	27
19. Mortality of growing stock and sawtimber on commercial forest land, by species	28
20. Volume of all live trees and growing stock on commercial forest land, by ownership class and species group	29
21. Volume of sawtimber on commercial forest land, by ownership class and species group	29
22. Net annual growth and removals of growing stock on commercial forest land, by ownership class and species group	30
23. Net annual growth and removals of sawtimber on commercial forest land, by ownership class and species group	30
24. Average net volume per acre of sawtimber, growing stock, and other live timber on commercial forest land, by ownership class, major forest type, and species group	31
25. Land area, by class, major forest type, and survey completion date	32
26. Volume of sawtimber, growing stock, and all live timber on commercial forest land, by species group, diameter class, and survey completion date	33

HIGHLIGHTS

Since 1968 in the Northern Coastal Plain of South Carolina--

--area of commercial forest land has increased by 68,000 acres, or by 1.5 percent. This small net gain, however, is not indicative of the shifts which have taken place among the various land uses over the 10-year period. Additions to commercial forest land totaled 187,000 acres, while 119,000 acres were diverted to other land uses. A little over one-half of this diversion was to urban development and almost 40 percent was to agriculture. The remaining acres were diverted to either noncommercial forest or water. Commercial forests now occupy 4.8 million acres, or 64 percent of the total land area in this unit.

--farmer-owned woodlands have decreased almost 462,000 acres, or about 22 percent. Most of this diversion has been to the miscellaneous private, corporate class, which now owns almost 10 percent of the commercial forest acreage. After a rapid buildup reported in 1968, forest industry ownership has increased only slightly and now comprises about 23 percent of the commercial forest land.

--almost 52 percent of the land classified as commercial forest has been treated or significantly disturbed. About 64 percent of this treated or disturbed area had experienced either harvesting or intermediate cutting. Less than 21 percent of the acreage where a final harvest occurred has been artificially regenerated. About 77 percent of all tree planting occurred on lands owned or leased by forest industries. An additional 315,000 acres were disturbed by fire, insects, disease, weather, or other natural destructive agents.

--area of commercial forest land occupied by pine types increased by 158,000 acres, or by about 9 percent. This increase in pine types is a departure from the regional trend from pine to hardwood. About 39 percent of the increase is attributed to the conversion of oak-pine and hardwood to pine through artificial regeneration, prescribed burning, and other forestry practices. Another 23 percent is attributed to new forest land added to the timber base. Natural succession accounted for the remaining 38 percent. In contrast to the net increase in pine types, only 57 percent of the acreage where pine was harvested remained in pine type. On private, nonindustrial lands, less than half of the acreage where pine was harvested has been regenerated with pine.

--average basal area of all live trees 5.0 inches d.b.h. and larger has increased from 63 to 72 square feet per acre of commercial forest land. Despite this increase, almost 979,000 acres of commercial forest land are either nonstocked or poorly stocked. Trees that fail to qualify as growing stock due to roughness, rot, poor form, or species make up 17 percent of the basal area stocking. Consistent with a regionwide trend, there was a 26 percent decrease in the number of softwood saplings and a 3 percent increase in number of hardwood saplings.

--volume of softwood growing stock has increased from 2.8 to 3.3 billion cubic feet, or by 16 percent. Slash pine volume increased almost 76 million cubic feet, or 159 percent. Loblolly pine, the predominant softwood species, increased 393 million cubic feet, or 23 percent. The current inventory of softwood growing stock includes 13.0 billion board feet of sawtimber, 19 percent more than in 1968.

--volume of hardwood growing stock has increased from 2.8 to 3.4 billion cubic feet, or by 20 percent. Tupelo, blackgum, and sweetgum accounted for more than half of this increase, and they are the most abundant hardwood species in the 16-county area. The current inventory of hardwood growing stock includes 10.7 billion board feet of sawtimber, 23 percent more than in 1968.

In 1977--

--net annual growth of growing stock averaged over 69 cubic feet per acre of commercial forest land and totaled 330 million cubic feet. This represents a 20 percent increase over the last survey. The 27 percent decrease in the number of southern yellow pine saplings and the age distribution of all stands indicate that regeneration efforts will have to be intensified if this high growth is to be sustained. Total net annual growth of growing stock included 1,322 million board feet of sawtimber.

--removals of growing stock totaled 196 million cubic feet, or almost 60 percent of the net growth. Removals included 783 million board feet of sawtimber. Almost 58 percent of the removals occurred on private lands, 33 percent on forest industry lands, and the remaining 9 percent on publicly owned properties. More than two-thirds of the removals were softwood.

--mortality of growing stock totaled 46 million cubic feet—a 73 percent increase over last survey. Insects were the leading identifiable cause of death, accounting for over 20 percent of the total mortality and one-third of the softwood mortality. The total included 149 million board feet of sawtimber. Mortality reduced gross growth by 12 percent.

HOW THE INVENTORY IS MADE

The method of the inventory is a sampling procedure designed to provide reliable statistics primarily at the State and survey unit levels. Individual county statistics are presented so that any combination of counties may be added together until a total is large enough to meet the desired degree of reliability. Procedures were as follows:

1. Initial estimates of forest and nonforest areas were based on the classification of 26,260 sample clusters systematically spaced on the latest aerial photographs available. A subsample of 3,130 of the 16-point clusters was ground checked and a linear regression was fitted to the data to develop the relationship between the photo and ground classification of the subsample. This procedure provides a means for adjusting the initial estimates of area for change in land use since date of photography and for photo misclassifications.

2. Estimates of timber volume and forest classifications were based on measurements recorded at 1,939 ground sample locations systematically distributed within the forest land. A 10-point cluster of plots, measured with a basal area factor of 37.5 square feet per acre, was established on an acre at each of these sample locations. Trees less than 5 inches d.b.h. were tallied on a portion of the fixed-radius plots around the point centers.

3. Equations prepared from detailed measurements collected on standing trees in this unit, and similar measurements taken throughout the Southeast, were used to compute the volume of individual tally trees. A mirror caliper and sectional aluminum poles were used to obtain the additional measurements on these standing trees required to construct volume equations.

4. Felled trees were measured at 37 active cutting operations. These data will be pooled with similar measurements taken in the State to supplement the standing-tree volume study and to generate utilization factors for product and species groups that will be analyzed at the State level.

5. Estimates of growth, removals, and mortality were determined from the remeasurement of 2,006 permanent sample plots which were established in the fourth survey.

6. Ownership information was collected from correspondence, public records, and local contacts. In those counties where the sample missed a particular ownership class, temporary sample plots were added on these lands.

7. All field data were sent to Asheville for editing and were punched into cards and stored for machine computing, sorting, and tabulation. Final estimates were based on statistical summaries of the data.

RELIABILITY OF THE DATA

Statistical analysis of these data indicates the following sampling errors in terms of one standard error (two times out of three):

	<u>Percent</u>
Per million acres of commercial forest land - - - - -	0.40
Per billion cubic feet of growing stock - - - - -	5.38
Per billion cubic feet of net annual growth - - - - -	1.10
Per billion cubic feet of annual removals - - - - -	2.10

*SAMPLING ERRORS FOR COUNTY AND UNIT TOTALS,¹ IN TERMS OF
ONE STANDARD ERROR*

COUNTY	COMMERCIAL FOREST AREA	CUBIC-FOOT VOLUME OF GROWING STOCK		
		INVENTORY	GROWTH	REMOVALS
- - - - - <i>SAMPLING ERROR</i> ² - - - - -				
BERKELEY	0.87	5.38	5.49	10.81
CHARLESTON	1.91	6.51	6.37	21.48
CHESTERFIELD	1.28	9.97	9.45	20.49
CLARENDON	2.14	10.21	9.18	28.38
DARLINGTON	2.37	11.01	8.48	22.90
DILLON	2.12	11.76	9.94	27.01
FLORENCE	1.55	7.28	7.01	19.67
GEORGETOWN	1.32	7.04	7.07	16.19
HORRY	1.05	6.34	6.04	17.36
KERSHAW	1.07	8.51	7.25	14.29
LEE	2.61	12.25	13.90	25.58
MARION	1.86	9.71	7.83	18.86
MARLBORO	2.39	10.16	9.77	22.04
RICHLAND	1.60	7.50	7.28	17.91
SUMTER	1.95	9.04	7.71	20.48
WILLIAMSBURG	1.29	5.94	6.38	13.95
UNIT TOTAL	0.40	2.08	1.91	4.74

¹ SAMPLING ERROR OF BREAKDOWNS OF COUNTY AND UNIT TOTALS
MAY BE COMPUTED WITH THE FOLLOWING FORMULA:

$$E = \frac{(SE) \sqrt{(\text{SPECIFIED VOLUME OR AREA})}}{\sqrt{(\text{VOLUME OR AREA TOTAL IN QUESTION})}}$$

WHERE: E = SAMPLING ERROR OF THE VOLUME OR AREA TOTAL IN
QUESTION.

SE = SPECIFIED SAMPLING ERROR IN TABLE.

² BY RANDOM-SAMPLING FORMULA (IN PERCENT).

DEFINITIONS OF TERMS

Acceptable trees.--Growing-stock trees of commercial species that meet specified standards of size and quality, but not qualifying as desirable trees.

Basal area.--The area in square feet of the cross section at breast height of a single tree or of all the trees in a stand, usually expressed as square feet of basal area per acre.

Commercial forest land.--Forest land producing or capable of producing crops of industrial wood and not withdrawn from timber utilization.

Commercial species.--Tree species presently or prospectively suitable for industrial wood products.

Cropland.--Land under cultivation within the past 24 months, including orchards and land in soil-improving crops, but excluding land cultivated in developing improved pasture. Also includes idle farmland.

Desirable trees.--Growing-stock trees of commercial species having no serious defects in quality limiting present or prospective use for timber products, of relatively high vigor, and containing no pathogens that may result in death or serious deterioration before rotation age.

Diameter class.--A classification of trees based on diameter outside bark, measured at breast height ($4\frac{1}{2}$ feet above the ground). D.b.h. is the common abbreviation for "diameter at breast height." Two-inch diameter classes are commonly used in Forest Survey, with the even inch the approximate midpoint for a class. For example, the 6-inch class includes trees 5.0 through 6.9 inches d.b.h., inclusive.

Farm.--Either a place operated as a unit of 10 or more acres from which the sale of agricultural products totaled \$50 or more annually, or a place operated as a unit of less than 10 acres from which the sale of agricultural products for the year amounted to at least \$250.

Farm operator.--A person who operates a farm, either doing the work himself or directly supervising the work.

Farmer-owned lands.--Lands owned by farm operators.

Forest industry lands.--Lands owned by companies or individuals operating wood-using plants.

Forest land.--Land at least 16.7 percent stocked by forest trees of any size, or formerly having had such tree cover, and not currently developed for nonforest use.

Forest type.--A classification of forest land based upon the species forming a plurality of live-tree stocking.

Longleaf-slash pine.--Forests in which longleaf or slash pine, singly or in combination, comprises a plurality of the stocking. (Common associates include oak, hickory, and gum.)

Loblolly-shortleaf pine.--Forests in which loblolly pine, shortleaf pine, or other southern yellow pines, except longleaf or slash pine, singly or in combination, comprise a plurality of the stocking. (Common associates include oak, hickory, and gum.)

Oak-pine.--Forests in which hardwoods (usually upland oaks) comprise a plurality of the stocking but in which pines comprise 25 to 50 percent of the stocking. (Common associates include gum, hickory, and yellow-poplar.)

Oak-hickory.--Forests in which upland oaks or hickory, singly or in combination, comprise a plurality of the stocking, except where pines comprise 25 to 50 percent, in which case the stand would be classified oak-pine. (Common associates include yellow-poplar, elm, maple, and black walnut.)

Oak-gum-cypress.--Bottomland forests in which tupelo, blackgum, sweetgum, oaks, or southern cypress, singly or in combination, comprises a plurality of the stocking, except where pines comprise 25 to 50 percent, in which case the stand would be classified oak-pine. (Common associates include cottonwood, willow, ash, elm, hackberry, and maple.)

Elm-ash-cottonwood.--Forests in which elm, ash, or cottonwood, singly or in combination, comprises a plurality of the stocking. (Common associates include willow, sycamore, beech, and maple.)

Gross growth.--Annual increase in net volume of trees in the absence of cutting and mortality.

Growing-stock trees.--Live trees of commercial species qualifying as desirable or acceptable trees.

Growing-stock volume.--Net volume in cubic feet of growing-stock trees 5.0 inches d.b.h. and over from a 1-foot stump to a minimum 4.0-inch top diameter outside bark of the central stem, or to the point where the central stem breaks into limbs. (Net volume in primary forks is included.)

Hardwoods.--Dicotyledonous trees, usually broad-leaved and deciduous.

Soft hardwoods.--Soft-textured hardwoods such as boxelder, red and silver maple, buckeye, hackberry, loblolly-bay, silverbell (in mountains), butternut, sweetgum, yellow-poplar, cucumbertree, magnolia, sweetbay, water tupelo, blackgum, sycamore, cottonwood, black cherry, willow, basswood, and elm.

Hard hardwoods.--Hard-textured hardwoods such as Florida and sugar maple, birch, hickory, dogwood, persimmon (forest grown), beech, ash, honeylocust, holly, black walnut, mulberry, all commercial oaks, and black locust.

Idle farmland.--Includes former croplands, orchards, improved pastures and farm sites not tended within the past 2 years, and presently less than 16.7 percent stocked with trees.

Improved pasture.--Land currently improved for grazing by cultivation, seeding, irrigation, or clearing of trees or brush.

Industrial wood.--All roundwood products except fuelwood.

Land area.--The area of dry land and land temporarily or partly covered by water such as marshes, swamps, and river flood plains (omitting tidal flats below mean high tide); streams, sloughs, estuaries, and canals less than 1/8 of a statute mile in width; and lakes, reservoirs, and ponds less than 40 acres in area.

Logging residues.--The unused portions of trees cut or killed by logging.

Miscellaneous Federal lands.--Federal lands other than National Forests, lands administered by the Bureau of Land Management, and Indian lands.

Miscellaneous private lands - corporate.--Lands owned by private corporations other than forest industry.

Miscellaneous private lands - individual.--Privately owned lands other than forest-industry, farmer-owned, or corporate lands.

Mortality.--Number or sound-wood volume of live trees dying from natural causes during a specified period.

National Forest land.--Federal lands which have been legally designated as National Forests or purchase units, and other lands under the administration of the Forest Service, including experimental areas and Bankhead-Jones Title III lands.

Net annual growth.--The increase in volume for a specific year.

Net volume.--Gross volume less deductions for rot, sweep, or other defect affecting use for timber products.

Noncommercial forest land.--(a) Unproductive forest land incapable of yielding crops of industrial wood because of adverse site conditions, and (b) productive-reserved forest land.

Noncommercial species.--Tree species of typically small size, poor form, or inferior quality which normally do not develop into trees suitable for industrial wood products.

Nonforest land.--Land that has never supported forests and lands formerly forested where timber management is precluded by development for other uses.

Nonstocked land.--Commercial forest land less than 16.7 percent stocked with growing-stock trees.

Other Federal lands.--Federal lands other than National Forests, including lands administered by the Bureau of Land Management, Bureau of Indian Affairs, and other Federal agencies.

Other public lands.--Publicly owned lands other than National Forests.

Overstocked areas.--Areas where growth of trees is significantly reduced by excessive numbers of trees.

Poletimber trees.--Growing-stock trees of commercial species at least 5.0 inches in d.b.h. but smaller than sawtimber size.

Productive-reserved forest land.--Forest land sufficiently productive to qualify as commercial forest land, but withdrawn from timber utilization through statute or administrative designation.

Rangeland.--Land on which the natural plant cover is composed principally of native grasses, forbs, or shrubs valuable for forage.

Rotten trees.--Live trees of commercial species that do not contain at least one 12-foot saw log, or two noncontiguous saw logs, each 8 feet or longer, now or prospectively, primarily because of rot or missing sections, and with less than one-third of the gross tree volume in sound material.

Rough trees.--(a) Live trees of commercial species that do not contain at least one 12-foot saw log, or two noncontiguous saw logs, each 8 feet or longer, now or prospectively, primarily because of roughness, poor form, splits, and cracks, and with less than one-third of the gross tree volume in sound material; and (b) all live trees of noncommercial species.

Salvable dead trees.--Standing or down dead trees that are considered merchantable by Forest Survey standards.

Saplings.--Live trees 1.0 to 5.0 inches in diameter at breast height.

Saw log.--A log meeting minimum standards of diameter, length, and defect, including logs at least 8 feet long, sound and straight, and with a minimum diameter inside bark for softwoods of 6 inches (8 inches for hardwoods).

Saw-log portion.--That part of the bole of sawtimber trees between the stump and the saw-log top.

Saw-log top.--The point on the bole of sawtimber trees above which a saw log cannot be produced. The minimum saw-log top is 7.0 inches d.o.b. for softwoods and 9.0 inches d.o.b. for hardwoods.

Sawtimber trees.--Live trees of commercial species containing at least a 12-foot saw log, or two noncontiguous saw logs, each 8 feet or longer, and with at least one-third of the gross board-foot volume between the 1-foot stump and minimum saw-log top being sound. Softwoods must be at least 9.0 inches and hardwoods at least 11.0 inches in diameter at breast height.

Sawtimber volume.--Net volume of the saw-log portion of live sawtimber in board-foot International 1/4-inch rule.

Seedlings.--Live trees less than 1.0 inch in diameter at breast height that are expected to survive and develop.

Site class.--A classification of forest land in terms of inherent capacity to grow crops of industrial wood based on fully stocked natural stands.

Class 1.--Sites capable of producing 165 or more cubic feet per acre annually.

Class 2.--Sites capable of producing 120 to 165 cubic feet per acre annually.

Class 3.--Sites capable of producing 85 to 120 cubic feet per acre annually.

Class 4.--Sites capable of producing 50 to 85 cubic feet per acre annually.

Class 5.--Sites incapable of producing 50 cubic feet per acre annually, but excluding unproductive sites.

Softwoods.--Coniferous trees, usually evergreen, having needles or scale-like leaves.

Pines.--Yellow pine species which include loblolly, longleaf, slash, shortleaf, pitch, Virginia, Table-Mountain, sand, and spruce pine.

Other softwoods.--White pine, hemlock, cypress, eastern redcedar, white-cedar, spruce, and fir.

Stand-size class.--A classification of forest land based on the size class of growing-stock trees on the area.

Sawtimber stands.--Stands at least 16.7 percent stocked with growing-stock trees, with half or more of total stocking in sawtimber or poletimber trees, and with sawtimber stocking at least equal to poletimber stocking.

Poletimber stands.--Stands at least 16.7 percent stocked with growing-stock trees of which half or more of this stocking is in poletimber and sawtimber trees, and with poletimber stocking exceeding that of sawtimber.

Sapling-seedling stands.--Stands at least 16.7 percent stocked with growing-stock trees of which more than half of the stocking is saplings and seedlings.

State, county, and municipal lands.--Lands owned by States, counties, and local public agencies or municipalities, or lands leased to these governmental units for 50 years or more.

Stocking.--The degree of occupancy of land by trees, measured by basal area or the number of trees in a stand and spacing in the stand, compared to a minimum standard, depending on tree size, to fully utilize the growth potential of the land. (See page 12.)

Timber removals.--The net volume of growing-stock trees removed from the inventory by harvesting; cultural operations, such as stand improvement; land clearing, or changes in land use.

Unproductive forest land.--Forest land incapable of producing 20 cubic feet per acre of industrial wood under natural conditions, because of adverse site conditions.

Upper-stem portion.--That part of the main stem or fork of sawtimber trees above the saw-log top to a minimum top diameter of 4.0 inches outside bark or to the point where the main stem or fork breaks into limbs.

Urban and other areas.--Areas within the legal boundaries of cities and towns; suburban areas developed for residential, industrial, or recreational purposes; school yards; cemeteries; roads; railroads; airports; beaches; powerlines and other rights-of-way; or other nonforest land not included in any other specified land use class.

STOCKING STANDARD

D.B.H. CLASS	MINIMUM NUMBER OF TREES PER ACRE FOR FULL STOCKING	MINIMUM BASAL AREA PER ACRE FOR FULL STOCKING	PERCENT STOCKING ASSIGNED EACH TALLY TREE ¹
SEEDLINGS	600	--	5.0
2	560	--	5.4
4	460	--	6.5
6	340	67	5.8
8	240	84	4.8
10	155	85	4.3
12	115	90	4.0
14	90	96	3.8
16	72	101	3.7
18	60	106	3.5
20	51	111	3.5

¹ TREES LESS THAN 5.0 INCHES D.B.H. WERE TALLIED ON A 10-POINT CLUSTER OF CIRCULAR, 1/300-ACRE PLOTS AT EACH SAMPLE LOCATION. TREES 5.0 INCHES D.B.H. AND LARGER WERE TALLIED ON A 10-POINT CLUSTER OF VARIABLE PLOTS USING A BASAL AREA FACTOR OF 37.5 AT EACH SAMPLE LOCATION.

OVERSTOCKED--OVER 130 PERCENT
 FULLY STOCKED--100-130 PERCENT
 MEDIUM STOCKED--60-99 PERCENT
 POORLY STOCKED--16.7-59 PERCENT
 NONSTOCKED--LESS THAN 16.7 PERCENT

*CUBIC FEET OF WOOD PER AVERAGE CORD
(EXCLUDING BARK)*

D.B.H. CLASS	ALL SPECIES	PINE	OTHER SOFTWOOD	HARDWOOD
6	60.5	61.0	68.2	60.0
8	68.5	68.1	76.0	68.4
10	73.5	73.1	81.4	73.4
12	76.8	76.7	85.2	76.4
14	79.2	79.4	88.2	78.4
16	81.0	81.6	90.4	79.8
18	82.3	83.3	92.3	80.8
20	83.3	84.8	93.8	81.5
22	84.1	86.0	95.1	82.1
24+	84.9	87.8	98.0	83.1
AVERAGE	75.5	75.4	87.4	74.9

COUNTY TABLES

THE COUNTY TABLES ARE INTENDED FOR USE IN COMPILING FOREST RESOURCE ESTIMATES FOR GROUPS OF COUNTIES. BECAUSE THE SAMPLING PROCEDURE USED BY THE FOREST SURVEY WAS INTENDED PRIMARILY TO FURNISH INVENTORY DATA FOR THE SURVEY UNIT AS A WHOLE, INDIVIDUAL COUNTY ESTIMATES HAVE LIMITED AND VARIABLE ACCURACY. AS COUNTY TOTALS ARE BROKEN DOWN BY VARIOUS SUBDIVISIONS, THE POSSIBILITY OF ERROR INCREASES AND IS GREATEST FOR THE SMALLEST ITEMS. THE ORDER OF THIS INCREASE CAN BE COMPUTED WITH THE FORMULA ON PAGE 5.

TABLE 1. --AREA, BY LAND CLASS AND COUNTY, 1978

COUNTY	ALL LAND ¹	FOREST LAND				NONFOREST LAND ²
		TOTAL	COMMERCIAL FOREST	UNPRODUCTIVE FOREST	PRODUCTIVE-RESERVED	
-- -- -- -- -- ACRES -- -- -- -- --						
BERKELEY	710,400	578,703	577,407	--	1,296	131,697
CHARLESTON	600,960	310,989	304,245	1,697	5,047	289,971
CHESTERFIELD	505,600	339,177	337,976	--	1,201	166,423
CLARENDON	383,360	218,177	217,210	514	453	165,183
DARLINGTON	347,520	169,683	169,683	--	--	177,837
DILLON	260,480	144,979	144,331	--	648	115,501
FLORENCE	515,200	287,280	287,280	--	--	227,920
GEORGETOWN	519,680	378,174	374,248	1,426	2,500	141,506
HORRY	738,560	490,332	489,560	256	516	248,228
KERSHAW	499,840	395,135	394,680	--	455	104,705
LEE	261,760	120,377	118,996	--	1,381	141,383
MARION	311,680	215,743	215,743	--	--	95,937
MARLBORO	309,120	172,181	172,181	--	--	136,939
RICHLAND	478,720	328,485	327,160	--	1,325	150,235
SUMTER	430,080	233,756	231,926	--	1,830	196,324
WILLIAMSBURG	598,400	388,860	388,860	--	--	209,540
TOTAL	7,471,360	4,772,031	4,751,486	3,893	16,652	2,699,329

¹ FROM U. S. BUREAU OF THE CENSUS, LAND AND WATER AREA OF THE UNITED STATES, 1970.

² INCLUDES 91,689 ACRES OF WATER ACCORDING TO SURVEY STANDARDS OF AREA CLASSIFICATION. BUT DEFINED BY THE BUREAU OF THE CENSUS AS LAND.

TABLE 2. -- AREA OF COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND COUNTY, 1978

COUNTY	ALL OWNERSHIPS	OWNERSHIP CLASS							
		NATIONAL FOREST	MISCELLANEOUS FEDERAL	STATE	COUNTY AND MUNICIPAL	FOREST INDUSTRY ¹	FARMER	MISCELLANEOUS PRIVATE	
								CORPORATE	INDIVIDUAL
ACRES									
BERKELEY	577,407	183,687	9,550	12,078	551	154,798	97,374	37,696	81,673
CHARLESTON	304,245	50,310	1,390	4,518	692	66,519	48,865	39,097	92,854
CHESTERFIELD	337,976	-	41,759	48,312	128	22,194	141,020	20,693	63,870
CLARENDON	217,210	-	2,320	4,624	50	43,153	102,390	21,556	43,117
DARLINGTON	169,683	-	-	1,664	226	12,710	102,272	15,754	37,057
DILLON	144,331	-	-	-	138	24,231	84,228	15,313	20,421
FLORENCE	287,280	-	-	893	317	49,381	198,512	7,635	30,542
GEORGETOWN	374,248	-	-	365	515	221,997	56,762	35,748	58,861
HORRY	489,560	-	788	523	209	139,297	150,157	92,026	106,560
KERSHAW	394,680	-	-	571	1,958	69,936	107,121	44,432	170,662
LEE	118,996	-	-	1,215	50	15,519	72,675	4,382	25,155
MARION	215,743	-	-	15	213	94,083	54,520	2,478	64,434
MARLBORO	172,181	-	-	70	57	45,110	85,098	26,830	15,016
RICHLAND	327,160	-	44,470	3,924	235	29,079	73,618	39,110	136,724
SUMTER	231,926	-	622	32,124	570	23,901	104,828	14,975	54,906
WILLIAMSBURG	388,860	-	-	16	152	88,094	185,169	43,284	72,145
TOTAL	4,751,486	233,997	100,899	110,912	6,061	1,100,002	1,664,609	461,009	1,073,997

¹ NOT INCLUDING 41,194 ACRES OF FARMER-OWNED AND MISCELLANEOUS PRIVATE LANDS LEASED TO FOREST INDUSTRY.

TABLE 3. --AREA OF COMMERCIAL FOREST LAND, BY FOREST-TYPE GROUP AND COUNTY, 1978

COUNTY	ALL TYPE GROUPS	FOREST-TYPE GROUP								
		WHITE PINE-HEMLOCK	SPRUCE-FIR	LONGLEAF-SLASH	LOBLOLLY-SHORTLEAF	OAK-PINE	OAK-HICKORY	OAK-GUM-CYPRESS	ELM-ASH-COTTONWOOD	MAPLE-BEECH-BIRCH
						ACRES				
BERKELEY	577,407	--	--	38,886	267,607	69,621	60,463	129,760	11,070	--
CHARLESTON	304,245	--	--	26,223	122,861	45,510	71,698	37,953	--	--
CHESTERFIELD	337,976	--	--	85,135	68,331	53,867	88,721	32,521	9,401	--
CLARENDON	217,210	--	--	7,779	56,993	17,172	54,173	81,093	--	--
DARLINGTON	169,683	--	--	18,389	26,161	31,821	63,508	29,804	--	--
DILLON	144,331	--	--	--	30,908	18,283	41,396	53,744	--	--
FLORENCE	287,280	--	--	7,635	109,894	46,403	35,329	85,774	2,245	--
GEORGETOWN	374,248	--	--	21,661	132,490	61,861	38,624	119,612	--	--
HORRY	489,560	--	--	33,285	184,743	53,796	49,464	165,850	2,422	--
KERSHAW	394,680	--	--	70,318	141,019	53,384	81,770	28,965	19,224	--
LEE	118,996	--	--	8,385	40,064	16,772	22,670	31,105	--	--
MARION	215,743	--	--	4,956	47,424	37,430	40,169	75,659	10,105	--
MARLBORO	172,181	--	--	14,409	31,952	8,585	62,489	44,992	9,754	--
RICHLAND	327,160	--	--	44,019	94,888	49,916	59,455	44,033	34,849	--
SUMTER	231,926	--	--	17,284	57,700	24,918	56,795	67,319	7,910	--
WILLIAMSBURG	388,860	--	--	23,874	121,105	54,878	69,396	119,607	--	--
TOTAL	4,751,486	--	--	422,238	1,534,140	644,217	896,120	1,147,791	106,980	--

TABLE 4. --AREA OF COMMERCIAL FOREST LAND, BY STAND-SIZE CLASS
AND COUNTY, 1978

COUNTY	ALL STANDS	STAND-SIZE CLASS			NONSTOCKED AREAS
		SAWTIMBER	POLETIMBER	SAPLING- SEEDLING	
- - - - - ACRES - - - - -					
BERKELEY	577,407	308,076	91,991	168,549	8,791
CHARLESTON	304,245	185,635	60,216	58,394	--
CHESTERFIELD	337,976	114,055	85,242	115,405	23,274
CLARENDON	217,210	119,588	36,931	55,302	5,389
DARLINGTON	169,683	79,168	29,710	57,341	3,464
DILLON	144,331	58,984	40,979	41,676	2,692
FLORENCE	287,280	160,020	50,901	73,814	2,545
GEORGETOWN	374,248	176,510	66,980	125,277	5,481
HORRY	489,560	266,661	115,528	96,912	10,459
KERSHAW	394,680	118,105	107,767	158,803	10,005
LEE	118,996	55,250	35,794	27,952	--
MARION	215,743	135,323	35,165	40,233	5,022
MARLBORO	172,181	61,998	45,669	62,140	2,374
RICHLAND	327,160	155,113	92,586	72,244	7,217
SUMTER	231,926	109,466	47,714	70,790	3,956
WILLIAMSBURG	388,860	191,274	81,156	106,986	9,444
TOTAL	4,751,486	2,295,226	1,024,329	1,331,818	100,113

TABLE 5. --AREA OF COMMERCIAL FOREST LAND, BY SITE CLASS AND COUNTY, 1978

COUNTY	ALL CLASSES	SITE CLASS				
		1	2	3	4	5
- - - - - ACRES - - - - -						
BERKELEY	577,407	2,482	47,768	184,566	295,242	47,349
CHARLESTON	304,245	2,217	55,639	101,559	111,772	33,058
CHESTERFIELD	337,976	--	2,311	32,366	125,456	177,843
CLARENDON	217,210	--	--	76,453	111,422	29,335
DARLINGTON	169,683	--	--	58,339	83,339	28,005
DILLON	144,331	--	--	36,011	85,066	23,254
FLORENCE	287,280	--	7,636	77,994	174,257	27,393
GEORGETOWN	374,248	--	5,480	102,154	201,946	64,668
HORRY	489,560	--	19,632	121,512	245,935	102,481
KERSHAW	394,680	--	4,868	42,822	217,749	129,241
LEE	118,996	--	--	14,594	65,271	39,131
MARION	215,743	--	5,021	82,489	110,627	17,606
MARLBORO	172,181	--	--	56,407	90,055	25,719
RICHLAND	327,160	--	2,301	46,354	203,349	75,156
SUMTER	231,926	--	6,451	76,656	126,542	22,277
WILLIAMSBURG	388,860	--	16,748	64,498	209,889	97,725
TOTAL	4,751,436	4,699	173,855	1,174,774	2,457,917	940,241

TABLE 6. --AREA OF COMMERCIAL FOREST LAND, BY STOCKING CLASSES OF GROWING-STOCK TREES, BY COUNTY, 1978

COUNTY	ALL CLASSES	STOCKING PERCENTAGE ¹				
		OVER 130	100-130	60-99	16.7-59	LESS THAN 16.7
- - - - - ACRES - - - - -						
BERKELEY	577,407	8,998	233,029	275,256	51,333	8,791
CHARLESTON	304,245	19,934	99,620	142,201	42,490	--
CHESTERFIELD	337,976	10,739	48,777	120,974	134,212	23,274
CLARENDON	217,210	15,096	55,657	129,895	11,173	5,389
DARLINGTON	169,683	--	30,286	89,590	46,343	3,464
DILLON	144,331	5,245	40,974	77,132	18,288	2,692
FLORENCE	287,280	9,579	82,176	152,842	40,138	2,545
GEORGETOWN	374,248	11,150	179,909	142,978	34,730	5,481
HORRY	489,560	19,886	115,283	235,939	107,993	10,459
KERSHAW	394,680	--	100,139	176,903	107,633	10,005
LEE	118,996	--	44,181	54,941	19,874	--
MARION	215,743	10,171	59,945	97,895	42,710	5,022
MARLBORO	172,181	--	50,548	83,589	35,670	2,374
RICHLAND	327,160	2,301	70,912	151,182	95,548	7,217
SUMTER	231,926	1,461	69,937	120,914	35,658	3,956
WILLIAMSBURG	388,860	7,215	125,657	191,692	54,852	9,444
TOTAL	4,751,486	121,775	1,407,030	2,243,923	878,645	100,113

¹ SEE STOCKING STANDARDS ON PAGE 12.

TABLE 7. -- VOLUME OF SAWTIMBER AND GROWING STOCK ON COMMERCIAL FOREST LAND, BY SPECIES GROUP AND COUNTY, 1978

COUNTY	SAWTIMBER				GROWING STOCK					HARD HARDWOOD
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	
	THOUSAND BOARD FEET				THOUSAND CUBIC FEET					
BERKELEY	3,317,555	2,055,314	129,314	557,252	575,675	854,590	486,448	33,635	188,538	145,969
CHARLESTON	2,050,810	1,402,742	106,742	313,805	227,521	549,600	326,790	26,908	117,694	78,208
CHESTERFIELD	1,926,282	496,923	-	318,799	110,560	295,708	148,310	204	100,016	47,178
CLARENDON	1,368,597	453,101	129,855	443,809	341,832	394,458	109,696	32,578	159,109	93,075
DARLINGTON	811,618	387,956	54,753	240,991	127,918	215,025	86,413	10,562	68,222	49,428
DILLON	689,880	233,959	38,945	316,026	100,940	220,365	59,219	8,168	110,055	42,923
FLORENCE	1,960,511	1,100,862	106,729	472,425	280,495	502,981	254,672	24,770	173,253	81,037
GEORGETOWN	1,816,176	946,588	96,478	514,216	258,894	528,175	250,583	23,302	314,727	117,452
HORRY	2,782,756	1,200,833	201,074	971,297	409,552	796,755	314,808	49,768	80,511	48,537
KERSHAW	1,057,201	685,856	11,667	254,016	106,062	345,372	212,803	3,521	58,209	25,609
LEE	416,786	177,152	1,429	174,028	64,177	139,973	55,841	314	214,398	78,061
MARION	1,712,887	509,759	145,912	789,979	267,227	438,702	115,763	30,480	102,306	36,366
MARLBORO	557,868	134,749	40,029	275,339	107,751	189,490	41,785	9,033	128,204	80,862
RICHLAND	1,335,079	601,650	27,489	462,551	243,389	386,368	169,368	7,934	140,131	55,919
SUMTER	1,201,590	492,527	47,888	489,385	171,790	325,008	117,171	11,787	115,005	137,667
WILLIAMSBURG	1,714,016	905,624	50,471	295,528	462,393	495,497	229,805	13,020	2,210,242	1,201,966
TOTAL	23,719,612	11,785,215	1,188,775	6,889,446	3,856,176	6,678,067	2,979,475	286,384	2,210,242	1,201,966

* FACTORS FOR CONVERTING TO CORDS ARE SHOWN ON PAGE 12.

TABLE 8. --NET ANNUAL GROWTH OF SAWTIMBER AND GROWING STOCK ON COMMERCIAL FOREST LAND, BY SPECIES GROUP AND COUNTY, 1977

COUNTY	SAWTIMBER				GROWING STOCK			
	ALL SPECIES	PINE	OTHER SOFTWOOD	THOUSAND BOARD FEET	ALL SPECIES	PINE	OTHER SOFTWOOD	THOUSAND CUBIC FEET
BERKELEY	174,209	122,898	3,345	23,765	40,866	28,494	826	6,142
CHARLESTON	123,637	91,399	3,235	14,863	24,987	16,858	527	4,144
CHESTERFIELD	55,570	36,325	--	13,918	18,200	11,531	58	4,114
CLARENDON	73,185	27,535	4,255	23,617	16,904	6,875	869	5,395
DARLINGTON	42,502	24,540	1,365	10,181	10,754	4,979	226	2,828
DILLON	37,212	15,283	1,015	14,282	10,534	3,319	212	4,983
FLORENCE	102,976	64,344	3,213	21,914	23,152	14,208	588	4,693
GEORGETOWN	101,426	67,315	3,143	19,752	26,682	16,454	562	6,347
HORRY	151,229	83,249	6,103	44,035	36,103	19,731	1,346	10,071
KERSHAW	70,202	53,859	260	10,173	24,435	17,848	110	3,653
LEE	23,702	12,891	19	6,973	8,185	4,550	3	2,556
MARION	75,491	28,811	4,038	30,266	18,671	6,747	709	7,679
MARLBORO	40,195	14,884	1,481	17,061	9,636	3,463	270	4,026
RICHLAND	80,378	49,566	974	17,875	20,921	12,226	517	4,652
SUMTER	61,583	30,283	1,352	21,372	14,612	7,015	305	4,714
WILLIAMSBURG	108,303	69,201	1,857	16,329	24,877	13,876	295	5,107
TOTAL	1,321,800	792,983	35,655	306,376	329,519	188,174	7,423	81,104
								52,818

TABLE 9. --ANNUAL REMOVALS OF SAWTIMBER AND GROWING STOCK ON COMMERCIAL FOREST LAND, BY SPECIES GROUP AND COUNTY, 1977

COUNTY	SAWTIMBER				GROWING STOCK					
	ALL SPECIES	PINE	OTHER SOFTWOOD	THOUSAND BOARD FEET	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	THOUSAND CUBIC FEET
BERKELEY	124,983	95,504	1,476	15,275	12,728	30,107	22,808	336	3,692	3,271
CHARLESTON	53,728	46,007	--	1,979	5,742	13,860	11,534	--	611	1,715
CHESTERFIELD	30,892	24,610	--	1,752	5,530	9,136	7,060	--	290	1,786
CLARENDON	44,765	20,391	3,543	17,268	3,563	11,072	5,516	690	3,986	2,880
DARLINGTON	36,597	23,239	--	3,939	9,419	8,549	5,103	--	1,358	1,751
DILLON	24,319	18,401	--	1,499	4,419	6,011	3,488	--	772	1,975
FLORENCE	41,855	33,150	--	5,699	3,006	9,608	7,127	--	1,506	3,633
GEORGETOWN	96,699	67,410	4,503	12,874	11,912	23,227	15,348	841	3,405	513
HORRY	55,846	42,408	769	10,539	2,130	14,095	10,003	137	3,442	921
KERSHAW	36,207	26,841	--	7,029	2,337	13,272	10,097	36	2,218	200
LEE	11,937	6,533	--	4,667	737	3,439	1,869	--	1,370	1,942
MARION	45,191	22,755	4,609	9,893	7,934	10,619	5,009	1,092	2,576	1,522
MARLBORO	30,261	18,625	--	8,154	3,482	8,037	4,203	--	2,312	3,279
RICHLAND	49,980	30,035	--	5,370	14,575	12,183	7,603	--	1,301	3,290
SUMTER	37,858	26,531	1,648	8,545	1,134	8,714	6,211	304	1,909	3,162
WILLIAMSBURG	61,996	43,203	--	4,420	14,373	13,607	8,911	43	1,491	27,928
TOTAL	783,114	545,643	16,548	117,902	103,021	195,536	131,890	3,479	32,239	

TABLE 10.--AREA OF COMMERCIAL FOREST LAND, BY FOREST TYPE AND OWNERSHIP CLASS, 1978

FOREST TYPE	ALL OWNERSHIPS	OWNERSHIP CLASS				
		NATIONAL FOREST	OTHER PUBLIC	FOREST INDUSTRY	FARMER	MISC. PRIVATE
- - - - - ACRES - - - - -						
SOFTWOOD TYPES:						
WHITE PINE-HEMLOCK	--	--	--	--	--	--
SPRUCE-FIR	--	--	--	--	--	--
LONGLEAF PINE	229,698	20,024	62,319	34,494	40,725	72,136
SLASH PINE	192,540	2,482	36,313	48,647	47,613	57,485
LOBLOLLY PINE	1,281,907	105,251	31,456	363,904	413,211	368,085
SHORTLEAF PINE	32,444	--	1,460	6,808	7,178	16,998
VIRGINIA PINE	--	--	--	--	--	--
SAND PINE	--	--	--	--	--	--
EASTERN REDCEDAR	2,300	--	--	--	--	2,300
POND PINE	212,937	15,224	9,954	63,833	60,578	63,348
SPRUCE PINE	4,552	--	--	4,552	--	--
PITCH PINE	--	--	--	--	--	--
TABLE-MOUNTAIN PINE	--	--	--	--	--	--
TOTAL	1,956,378	142,981	141,502	522,238	569,305	580,352
HARDWOOD TYPES:						
OAK-PINE	644,217	25,485	31,048	114,115	262,258	211,311
OAK-HICKORY	806,467	5,130	10,006	145,712	368,490	277,129
CHESTNUT OAK	--	--	--	--	--	--
SOUTHERN SCRUB OAK	89,653	--	14,720	9,934	26,055	38,944
OAK-GUM-CYPRESS	1,147,791	60,401	16,578	279,255	414,951	376,606
ELM-ASH-COTTONWOOD	106,980	--	4,018	28,748	23,550	50,664
MAPLE-BEECH-BIRCH	--	--	--	--	--	--
TOTAL	2,795,108	91,016	76,370	577,764	1,095,304	954,654
ALL TYPES	4,751,486	233,997	217,872	1,100,002	1,664,609	1,535,006

TABLE 11.--AREA OF COMMERCIAL FOREST LAND, BY OWNERSHIP AND STOCKING CLASSES OF GROWING-STOCK TREES, 1978

OWNERSHIP CLASSES	ALL CLASSES	STOCKING PERCENTAGE ¹				
		OVER 130	100-130	60-99	16.7-59	LESS THAN 16.7
-- -- -- -- -- ACRES -- -- -- -- --						
NATIONAL FOREST	233,997	10,427	107,895	108,229	7,446	--
OTHER PUBLIC	217,872	2,559	50,507	80,356	79,276	5,174
FOREST INDUSTRY	1,100,002	36,725	421,353	410,449	198,694	32,781
FARMER	1,664,609	21,501	375,460	886,698	352,483	28,467
MISC. PRIVATE	1,535,006	50,563	451,815	758,191	240,746	33,691
ALL OWNERSHIPS	4,751,486	121,775	1,407,030	2,243,923	878,645	100,113

¹ SEE STOCKING STANDARDS ON PAGE 12.

TABLE 12. --VOLUME OF TIMBER ON COMMERCIAL FOREST LAND, BY CLASS AND SPECIES GROUP, 1978

CLASS OF TIMBER	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
- - - - - THOUSAND CUBIC FEET - - - - -					
SAWTIMBER TREES:					
SAW-LOG PORTION	4,213,119	2,060,832	221,294	1,271,159	659,834
UPPER-STEM PORTION	709,262	275,712	29,606	265,913	138,031
TOTAL	4,922,381	2,336,544	250,900	1,537,072	797,865
POLETIMBER TREES	1,755,686	642,931	35,484	673,170	404,101
ALL GROWING-STOCK TREES	6,678,067	2,979,475	286,384	2,210,242	1,201,966
ROUGH TREES:					
SAWTIMBER-SIZE TREES	371,970	29,017	5,710	223,787	113,456
POLETIMBER-SIZE TREES	441,257	36,995	3,273	231,322	169,667
TOTAL	813,227	66,012	8,983	455,109	283,123
ROTTEN TREES:					
SAWTIMBER-SIZE TREES	126,598	426	12,954	76,798	36,420
POLETIMBER-SIZE TREES	13,979	156	147	9,031	4,645
TOTAL	140,577	582	13,101	85,829	41,065
SALVABLE DEAD TREES:					
SAWTIMBER-SIZE TREES	4,926	2,747	56	1,287	836
POLETIMBER-SIZE TREES	2,540	1,480	64	598	398
TOTAL	7,466	4,227	120	1,885	1,234
TOTAL, ALL TIMBER	7,639,337	3,050,296	308,588	2,753,065	1,527,388

TABLE 13.--NUMBER OF GROWING-STOCK TREES ON COMMERCIAL FOREST LAND, BY SPECIES AND DIAMETER CLASS, 1978

SPECIES	ALL CLASSES	DIAMETER CLASS (INCHES AT BREAST HEIGHT)											29.0 AND LARGER
		5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9			
----- THOUSAND TREES -----													
SOFTWOOD:													
LONGLEAF PINE	31,302	8,679	7,162	6,256	4,574	2,813	1,277	418	71	50	2		
SLASH PINE	28,223	18,245	6,992	1,833	689	192	150	59	25	13	--		
SHORTLEAF PINE	9,115	3,688	2,374	1,874	580	333	150	83	18	13	2		
LOBLOLLY PINE	163,944	59,970	38,509	23,586	17,119	10,823	6,704	3,861	1,761	1,555	56		
POND PINE	30,194	11,540	8,045	4,784	2,803	1,633	901	302	114	72	--		
VIRGINIA PINE	52	--	52	--	--	--	--	--	--	--	--		
PITCH PINE	--	--	--	--	--	--	--	--	--	--	--		
TABLE-MOUNTAIN PINE	--	--	--	--	--	--	--	--	--	--	--		
SPRUCE PINE	674	204	121	114	142	57	20	12	4	--	--		
SAND PINE	--	--	--	--	--	--	--	--	--	--	--		
EASTERN WHITE PINE	--	--	--	--	--	--	--	--	--	--	--		
EASTERN HEMLOCK	--	--	--	--	--	--	--	--	--	--	--		
SPRUCE AND FIR	--	--	--	--	--	--	--	--	--	--	--		
BALDCYPRESS	9,467	2,224	1,525	1,437	1,125	977	867	473	347	443	49		
POND CYPRESS	5,477	2,136	1,020	1,024	512	391	174	67	99	54	--		
CEDARS	1,334	944	248	82	10	18	6	16	--	10	--		
TOTAL SOFTWOODS	279,782	107,630	66,048	40,990	27,554	17,237	10,274	5,291	2,439	2,210	109		
HARDWOOD:													
SELECT WHITE OAKS	10,592	3,909	2,358	1,604	1,042	629	455	288	137	159	11		
SELECT RED OAKS	2,549	448	625	391	318	212	242	117	69	115	12		
CHESTNUT OAK	19	--	--	19	--	--	--	--	--	--	--		
OTHER WHITE OAKS	7,558	2,930	1,878	1,089	534	444	225	104	110	184	60		
OTHER RED OAKS	57,506	25,545	13,252	7,267	3,986	2,668	1,662	1,072	776	1,086	192		
HICKORY	8,503	3,521	1,954	1,084	719	515	264	154	91	174	27		
YELLOW BIRCH	--	--	--	--	--	--	--	--	--	--	--		
HARD MAPLE	63	--	--	--	--	--	--	--	--	--	--		
SOFT MAPLE	20,712	9,335	4,530	2,629	1,645	1,034	736	383	211	196	13		
BEECH	238	--	53	38	37	17	51	15	16	11	--		
SWEETGUM	62,497	25,840	14,295	8,652	6,067	3,397	1,992	1,054	511	627	62		
TUPELO AND BLACKGUM	63,071	18,343	13,709	8,998	7,775	6,100	3,534	2,072	1,123	1,268	149		
ASH	9,419	3,910	1,686	1,543	898	659	289	214	96	113	11		
COTTONWOOD	1,743	439	308	249	296	175	153	66	16	33	8		
BASSWOOD	--	--	--	--	--	--	--	--	--	--	--		
YELLOW-POPLAR	8,536	2,656	1,672	1,297	837	804	448	383	229	200	10		
BAY AND MAGNOLIA	1,743	1,140	382	68	68	37	34	5	5	4	--		
BLACK CHERRY	462	223	156	38	36	9	--	--	--	--	--		
BLACK WALNUT	65	--	24	16	--	8	12	5	--	--	--		
SYCAMORE	382	--	48	81	72	48	22	21	35	49	6		
BLACK LOCUST	--	--	--	--	--	--	--	--	--	--	--		
ELM	3,784	1,236	773	628	471	234	227	93	40	68	14		
OTHER EASTERN HARDWOODS	6,171	2,902	1,528	721	462	266	155	48	40	49	--		
TOTAL HARDWOODS	265,613	102,440	59,231	36,412	25,263	17,256	10,501	6,094	3,505	4,336	575		
ALL SPECIES	545,395	210,070	125,279	77,402	52,817	34,493	20,775	11,385	5,944	6,546	684		

TABLE 14. -- VOLUME OF ALL LIVE TREES ON COMMERCIAL FOREST LAND, BY SPECIES AND DIAMETER CLASS, 1978

SPECIES	ALL CLASSES	DIAMETER CLASS (INCHES AT BREAST HEIGHT)										29.0 AND LARGER
		5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9		
THOUSAND CUBIC FEET												
SOFTWOOD:												
LONGLEAF PINE	388,072	24,353	46,540	75,653	88,868	76,869	47,007	19,841	3,994	4,662	285	
SLASH PINE	132,799	45,254	39,642	18,862	11,962	5,192	6,534	2,771	1,535	1,047		
SHORTLEAF PINE	79,186	9,199	15,858	20,346	10,775	9,533	6,160	4,621	1,094	1,222	378	
LOBLOLLY PINE	2,145,107	162,950	251,245	292,668	342,195	317,614	273,797	206,934	125,256	161,251	11,197	
POND PINE	290,742	31,526	50,905	55,712	50,594	43,866	31,468	14,179	6,816	5,676		
VIRGINIA PINE	238											
PITCH PINE												
TABLE-MOUNTAIN PINE												
SPRUCE PINE	9,925	813	1,559	1,387	3,098	1,575	790	409	294			
SAND PINE												
EASTERN WHITE PINE												
EASTERN HEMLOCK												
SPRUCE AND FIR												
BALD CYPRESS	235,716	8,938	12,350	21,812	23,975	28,527	34,787	23,288	22,271	43,525	16,243	
POND CYPRESS	64,049	6,776	6,742	12,413	8,716	10,562	5,443	2,879	5,707	4,234	577	
CEDARS	8,703	2,777	1,321	1,372	8,243	607	243	797	159	1,184		
TOTAL SOFTWOODS	3,354,537	292,586	426,400	500,225	540,426	494,345	406,229	275,719	167,126	222,801	28,680	
HARDWOOD:												
SELECT WHITE OAKS	136,879	12,138	15,684	18,311	18,791	15,936	16,141	13,720	9,211	14,707	2,240	
SELECT RED OAKS	57,117	1,264	4,107	5,228	6,478	6,150	9,152	6,139	4,300	11,476	2,823	
CHESTNUT OAK	180			180								
OTHER WHITE OAKS	139,428	12,133	13,704	14,016	10,607	14,051	10,312	8,556	10,048	25,642	20,359	
OTHER RED OAKS	771,395	89,230	94,412	92,924	78,323	81,635	65,228	55,261	53,644	114,062	46,676	
HICKORY	121,779	11,634	13,052	15,142	12,758	14,691	10,950	8,927	7,108	20,903	6,614	
YELLOW BIRCH												
HARD MAPLE	825	276			334					215		
SOFT MAPLE	358,471	52,500	53,424	53,797	45,322	40,435	38,364	24,138	19,610	26,293	4,588	
BEECH	R,029		244	418	626	1,016	1,925	770	1,467	1,000	563	
SWEETGUM	830,198	78,464	106,841	120,748	135,664	113,407	86,541	62,763	39,307	71,442	15,021	
TOUPELO AND BLACKGUM	1,212,589	79,206	116,596	145,135	187,930	191,665	147,648	107,322	75,107	125,958	36,022	
ASH	167,899	21,713	19,387	29,046	24,170	23,520	13,220	13,280	7,333	13,192	3,038	
COTTONWOOD	35,697	2,227	2,015	3,277	6,517	5,324	6,417	3,573	1,351	3,218	1,778	
BASSWOOD	241	145	96									
YELLOW-POPLAR	155,462	9,815	12,049	15,346	17,352	23,835	18,593	19,814	14,957	20,456	2,245	
BAY AND MAGNOLIA	18,654	6,640	4,599	1,644	1,892	1,689	1,356	178	224	432		
BLACK CHERRY	7,609	2,318	2,593	1,285	927	202	593			284		
BLACK WALNUT	2,302		349	503	159	207	784	198		293		
SYCAMORE	14,741		321	1,320	1,450	1,873		1,033	2,364	4,296	1,300	
BLACK LOCUST												
ELM	74,939	5,989	7,615	9,554	12,186	7,745	10,275	6,595	2,722	7,911	4,347	
OTHER EASTERN HARDWOODS	162,900	49,258	37,305	23,719	17,346	11,873	8,626	3,925	3,408	6,630	810	
TOTAL HARDWOODS	4,277,334	434,950	504,393	552,593	578,832	555,254	446,125	336,192	252,161	468,410	148,424	
ALL SPECIES	7,631,871	727,536	930,793	1,052,818	1,119,258	1,049,599	852,354	611,911	419,287	691,211	177,104	

TABLE 15. --VOLUME OF GROWING STOCK ON COMMERCIAL FOREST LAND, BY SPECIES AND DIAMETER CLASS, 1978

SPECIES	ALL CLASSES	DIAMETER CLASS (INCHES AT BREAST HEIGHT)										THOUSAND CUBIC FEET	
		5.0- 6.9	7.0- 8.9	9.0- 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 20.9	21.0- 28.9	29.0 AND LARGER		
SOFTWOOD:													
LONGLEAF PINE	386,758	24,175	46,235	75,653	88,535	76,686	46,828	19,841	3,858	4,662	285		
SLASH PINE	123,689	40,773	36,319	18,060	11,458	5,192	6,534	2,771	1,535	1,047			
SHORTLEAF PINE	76,864	8,635	14,971	20,009	10,532	9,533	5,986	4,494	1,094	1,222	378		
LOBLOLLY PINE	2,103,113	152,169	239,980	283,394	337,770	315,704	271,929	206,406	123,969	160,595	11,197		
POND PINE	279,847	28,568	49,048	53,431	48,897	42,210	31,468	13,996	6,816	5,413			
VIRGINIA PINE	238												
PITCH PINE													
TABLE-MOUNTAIN PINE													
SPRUCE PINE	8,966	649	1,171	1,387	2,886	1,380	790	409	294				
SAND PINE													
EASTERN WHITE PINE													
EASTERN HEMLOCK													
SPRUCE AND FIR													
BALD CYPRESS	217,798	7,040	11,573	20,248	22,641	27,761	34,009	23,085	21,785	41,152	8,504		
POND CYPRESS	61,496	6,542	6,581	11,945	8,716	10,133	5,443	2,793	5,228	4,115			
CEDARS	7,090	2,501	1,247	1,033	243	451	243	628		744			
TOTAL SOFTWOODS	3,265,859	271,052	407,363	485,160	531,678	489,050	403,240	274,423	164,579	218,950	20,364		
HARDWOOD:													
SELECT WHITE OAKS	128,523	10,895	13,806	17,260	18,133	15,578	15,758	12,858	7,849	14,358	2,028		
SELECT RED OAKS	54,307	1,264	3,861	4,655	6,150	5,970	9,152	5,911	4,300	11,015	2,029		
CHESTNUT OAK	180			180									
OTHER WHITE OAKS	94,953	7,698	9,575	9,944	7,687	10,191	7,495	4,857	7,055	17,326	13,125		
OTHER RED OAKS	661,454	72,773	79,351	79,977	69,842	69,710	60,116	49,112	46,975	97,686	35,912		
HICKORY	104,563	9,028	10,594	11,949	11,655	12,858	10,139	7,949	6,199	18,339	5,853		
YELLOW BIRCH													
YELLOW MAPLE	155												
SOFT MAPLE	224,296	30,104	29,717	31,460	28,991	26,663	26,874	17,564	12,772	18,223	1,928		
BEECH	6,137		244	418	626	431	1,660	770	1,130	858			
SWEETGUM	739,004	60,833	90,260	106,545	123,137	100,554	82,135	58,571	37,377	66,882	12,710		
TUPELO AND BLACKGUM	952,947	54,560	86,724	107,947	145,606	157,683	124,884	91,734	63,148	98,636	22,025		
ASH	123,846	12,716	12,025	20,484	17,944	19,008	11,214	10,626	6,524	11,201	2,104		
COTTONWOOD	33,214	1,523	2,015	3,245	6,240	5,132	6,015	3,178	1,134	3,218	1,514		
BASSWOOD													
YELLOW-POPLAR	147,347			14,732	16,502	23,018	17,913	19,169	14,747	19,968	1,944		
BAY AND MAGNOLIA	9,816	3,188	2,164	821	1,095	743	1,162	178	224	241			
BLACK CHERRY	2,986		1,097	354	743	202							
BLACK WALNUT	1,331		321	194		207	593	198					
SYCAMORE	13,992			1,320	1,450	1,564	784	1,033	2,141	4,296	1,083		
BLACK LOCUST													
ELM	57,843	3,144	4,672	7,101	9,267	6,480	9,172	5,620	2,722	6,880	2,785		
OTHER EASTERN HARDWOODS	55,314	6,992	9,293	8,010	8,310	7,094	5,456	2,502	2,784	4,873			
TOTAL HARDWOODS	3,412,208	283,396	367,279	426,596	473,378	463,086	390,522	291,830	217,081	394,000	105,040		
ALL SPECIES	6,678,067	554,448	774,642	911,756	1,005,056	952,136	793,762	566,253	381,660	612,950	125,404		

TABLE 16. --VOLUME OF SAWTIMBER ON COMMERCIAL FOREST LAND, BY SPECIES AND DIAMETER CLASS, 1978

SPECIES	ALL CLASSES	DIAMETER CLASS (INCHES AT BREAST HEIGHT)								29.0 AND LARGER
		9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9		
THOUSAND BOARD FEET										
SOFTWOOD:										
LONGLEAF PINE	1,589,460	305,005	426,125	410,669	269,475	120,518	24,347	31,267	2,054	
SLASH PINE	216,355	66,441	52,455	27,122	37,005	16,592	9,732	7,008		
SHORTLEAF PINE	245,403	72,605	47,344	48,703	33,055	26,470	6,765	7,838	2,623	
LOBLOLLY PINE	8,732,945	995,959	1,499,447	1,597,350	1,505,498	1,219,844	769,953	1,064,271	80,623	
POND PINE	967,283	202,363	220,977	214,369	172,595	81,244	41,215	34,520		
VIRGINIA PINE	--	--	--	--	--	--	--	--	--	
PITCH PINE	--	--	--	--	--	--	--	--	--	
TABLE-MOUNTAIN PINE	--	--	--	--	--	--	--	--	--	
SPRUCE PINE	33,769	6,012	13,551	6,652	3,958	2,072	1,524	--	--	
SAND PINE	--	--	--	--	--	--	--	--	--	
EASTERN WHITE PINE	--	--	--	--	--	--	--	--	--	
EASTERN HEMLOCK	--	--	--	--	--	--	--	--	--	
SPRUCE AND FIR	--	--	--	--	--	--	--	--	--	
BALDCYPRESS	961,368	59,213	85,284	119,429	163,423	118,833	118,831	241,845	54,510	
POND CYPRESS	210,042	36,991	34,230	45,358	26,435	14,623	28,544	23,861	--	
CEDARS	17,365	4,171	1,156	2,229	1,385	3,622	--	4,802	--	
TOTAL SOFTWOODS	12,973,990	1,748,760	2,380,569	2,471,881	2,212,829	1,603,818	1,000,911	1,415,412	139,810	
HARDWOOD:										
SELECT WHITE OAKS	389,799	--	59,177	61,192	70,049	62,702	39,884	82,769	14,026	
SELECT RED OAKS	220,601	--	20,771	24,809	42,457	29,850	23,474	65,603	13,637	
CHESTNUT OAK	--	--	--	--	--	--	--	--	--	
OTHER WHITE OAKS	351,718	--	27,392	43,208	35,106	24,483	37,490	100,505	83,534	
OTHER RED OAKS	2,140,458	--	256,862	299,966	285,460	249,904	252,989	566,881	228,396	
HICKORY	349,176	--	39,542	51,605	45,773	38,796	32,240	104,020	37,200	
YELLOW BIRCH	--	--	--	--	--	--	--	--	--	
HARD MAPLE	--	--	--	--	--	--	--	--	--	
SOFT MAPLE	545,287	--	90,522	99,094	111,827	78,457	60,813	93,754	10,820	
BEECH	21,559	--	2,291	1,646	6,440	3,074	4,577	3,531	--	
SWEETGUM	2,265,793	--	434,819	429,906	394,544	306,971	208,228	405,080	86,245	
TUPELO AND BLACKGUM	3,065,323	--	443,269	593,174	543,348	440,997	327,014	570,165	147,356	
ASH	333,298	--	58,952	72,886	47,798	49,301	32,055	59,930	12,376	
COTTONWOOD	112,791	--	19,392	19,689	25,868	14,893	5,674	17,758	9,517	
BASSWOOD	--	--	--	--	--	--	--	--	--	
YELLOW-POPLAR	564,578	--	59,151	99,022	87,225	100,956	82,756	122,096	13,372	
BAY AND MAGNOLIA	14,129	--	3,390	2,724	4,939	806	1,066	1,204	--	
BLACK CHERRY	3,349	--	2,575	774	--	--	--	--	--	
BLACK WALNUT	3,526	--	--	727	2,096	703	--	--	--	
SYCAMORE	59,440	--	4,480	6,167	3,263	4,881	10,703	23,442	6,504	
BLACK LOCUST	--	--	--	--	--	--	--	--	--	
ELM	183,854	--	31,014	24,982	38,993	25,596	12,962	35,047	15,260	
OTHER EASTERN HARDWOODS	120,943	--	25,204	25,064	22,241	10,871	13,098	24,465	--	
TOTAL HARDWOODS	10,745,622	--	1,578,803	1,856,635	1,767,427	1,443,241	1,145,023	2,276,250	678,243	
ALL SPECIES	23,719,612	1,748,760	3,959,372	4,328,516	3,980,256	3,047,059	2,145,934	3,691,662	818,053	

TABLE 17. --NET ANNUAL GROWTH AND REMOVALS OF GROWING STOCK ON COMMERCIAL FOREST LAND, BY SPECIES, 1977

SPECIES	NET ANNUAL GROWTH	ANNUAL TIMBER REMOVALS
- - THOUSAND CUBIC FEET - -		
SOFTWOOD:		
YELLOW PINES	188,174	131,890
EASTERN WHITE PINE	--	--
SPRUCE AND FIR	--	--
CYPRESS	6,788	3,342
OTHER EASTERN SOFTWOODS	635	137
TOTAL SOFTWOODS	195,597	135,369
HARDWOOD:		
SELECT WHITE AND RED OAKS	9,185	5,973
OTHER WHITE AND RED OAKS	35,403	17,957
HICKORY	3,455	2,065
YELLOW BIRCH	--	--
HARD MAPLE	4	--
SWEETGUM	34,082	12,832
ASH, WALNUT, AND BLACK CHERRY	4,154	1,956
YELLOW-POPLAR	7,471	1,531
TUPELO AND BLACKGUM	23,151	11,614
BAY AND MAGNOLIA	570	--
OTHER EASTERN HARDWOODS	16,447	6,239
TOTAL HARDWOODS	133,922	60,167
ALL SPECIES	329,519	195,536

TABLE 18. --NET ANNUAL GROWTH AND REMOVALS OF SAWTIMBER ON COMMERCIAL FOREST LAND, BY SPECIES, 1977

SPECIES	NET ANNUAL GROWTH	ANNUAL TIMBER REMOVALS
- - - THOUSAND BOARD FEET - - -		
SOFTWOOD:		
YELLOW PINES	792,983	545,643
EASTERN WHITE PINE	--	--
SPRUCE AND FIR	--	--
CYPRESS	34,847	15,927
OTHER EASTERN SOFTWOODS	808	621
TOTAL SOFTWOODS	828,638	562,191
HARDWOOD:		
SELECT WHITE AND RED OAKS	35,826	23,983
OTHER WHITE AND RED OAKS	119,394	63,806
HICKORY	11,863	8,250
YELLOW BIRCH	--	--
HARD MAPLE	--	--
SWEETGUM	117,761	45,298
ASH, WALNUT, AND BLACK CHERRY	17,202	6,364
YELLOW-POPLAR	33,591	7,814
TUPELO AND BLACKGUM	108,166	42,549
BAY AND MAGNOLIA	745	--
OTHER EASTERN HARDWOODS	48,614	22,859
TOTAL HARDWOODS	493,162	220,923
ALL SPECIES	1,321,800	783,114

TABLE 19. --MORTALITY OF GROWING STOCK AND SAWTIMBER ON COMMERCIAL
FOREST LAND, BY SPECIES, 1977

SPECIES	GROWING STOCK	SAWTIMBER
	THOUSAND CUBIC FEET	THOUSAND BOARD FEET
SOFTWOOD:		
YELLOW PINES	27,267	90,829
EASTERN WHITE PINE	--	--
SPRUCE AND FIR	--	--
CYPRESS	372	761
OTHER EASTERN SOFTWOODS	404	910
TOTAL SOFTWOODS	28,043	92,500
HARDWOOD:		
SELECT WHITE AND RED OAKS	300	992
OTHER WHITE AND RED OAKS	5,163	19,289
HICKORY	290	1,057
YELLOW BIRCH	--	--
HARD MAPLE	--	--
SWEETGUM	3,287	10,740
ASH, WALNUT, AND BLACK CHERRY	1,110	2,001
YELLOW-POPLAR	828	1,507
TUPELO AND BLACKGUM	1,609	5,689
BAY AND MAGNOLIA	131	--
OTHER EASTERN HARDWOODS	5,211	15,461
TOTAL HARDWOODS	17,929	56,736
ALL SPECIES	45,972	149,236

TABLE 20. -- VOLUME OF ALL LIVE TREES AND GROWING STOCK ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1978

OWNERSHIP CLASS	ALL LIVE TREES				GROWING STOCK					
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
						THOUSAND CUBIC FEET				
NATIONAL FOREST	515,980	282,481	40,916	133,313	60,270	479,148	279,629	40,236	112,112	47,171
OTHER PUBLIC	285,167	189,916	4,909	47,458	42,884	256,982	188,184	4,721	37,760	26,317
FOREST INDUSTRY	1,702,169	596,822	112,631	683,676	309,040	1,467,884	577,765	101,710	546,910	241,499
FARMER	2,497,485	1,020,885	42,179	862,642	571,759	2,183,137	995,956	38,424	689,628	459,129
MISCELLANEOUS PRIVATE	2,630,090	955,965	107,833	1,024,091	542,201	2,290,916	937,941	101,293	823,832	427,850
ALL OWNERSHIPS	7,631,871	3,046,069	308,468	2,751,180	1,526,154	6,678,067	2,979,475	286,384	2,210,242	1,201,966

TABLE 21. -- VOLUME OF SAWTIMBER ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1978

OWNERSHIP CLASS	SMALL SAWTIMBER ¹					LARGE SAWTIMBER ²				
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
THOUSAND BOARD FEET										
NATIONAL FOREST	787,837	547,268	59,097	141,068	40,404	1,176,533	773,010	103,430	167,921	132,172
OTHER PUBLIC	541,831	471,301	8,754	47,150	14,626	373,237	246,433	6,216	53,235	67,353
FOREST INDUSTRY	2,090,703	1,254,350	141,920	489,517	204,916	2,949,552	596,960	311,509	1,396,066	645,017
FARMER	3,256,665	2,004,355	37,655	796,528	418,127	4,340,351	2,090,059	118,206	1,204,506	927,580
MISCELLANEOUS PRIVATE	3,359,612	1,935,875	140,635	920,255	362,847	4,843,291	1,865,604	261,353	1,673,200	1,043,134
ALL OWNERSHIPS	10,036,648	6,213,149	388,061	2,394,518	1,040,920	13,682,964	5,572,066	800,714	4,494,928	2,815,256

¹ VOLUME OF SAWTIMBER TREES LESS THAN 15.0 INCHES AT D.B.H.² VOLUME OF SAWTIMBER TREES 15.0 INCHES AND LARGER AT D.B.H.

TABLE 22. --NET ANNUAL GROWTH AND REMOVALS OF GROWING STOCK ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1977

OWNERSHIP CLASS	NET ANNUAL GROWTH				ANNUAL TIMBER REMOVALS					
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
					THOUSAND CUBIC FEET					
NATIONAL FOREST	19,496	13,273	865	3,629	1,729	9,509	9,043	--	60	406
OTHER PUBLIC	15,634	12,482	98	1,381	1,631	8,631	7,931	--	416	284
FOREST INDUSTRY	76,454	47,187	2,616	17,553	9,098	61,710	41,605	2,214	10,163	7,728
FARMER	110,996	59,141	1,018	28,580	22,257	58,572	40,506	341	9,575	8,150
MISCELLANEOUS PRIVATE	106,939	56,091	2,826	29,961	18,061	57,114	32,805	924	12,025	11,360
ALL OWNERSHIPS	329,519	188,174	7,423	81,104	52,818	195,536	131,890	3,479	32,239	27,928

TABLE 23. --NET ANNUAL GROWTH AND REMOVALS OF SAWTIMBER ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1977

OWNERSHIP CLASS	NET ANNUAL GROWTH				ANNUAL TIMBER REMOVALS					
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
					THOUSAND BOARD FEET					
NATIONAL FOREST	93,197	65,953	4,236	14,318	8,690	41,009	40,080	--	--	929
OTHER PUBLIC	55,982	47,270	551	4,549	3,512	28,772	25,628	--	2,073	1,071
FOREST INDUSTRY	287,900	163,371	12,390	71,552	40,587	251,015	171,146	11,324	38,525	30,020
FARMER	440,725	262,582	5,130	102,576	70,437	240,296	176,497	1,427	35,348	27,024
MISCELLANEOUS PRIVATE	443,996	253,807	13,348	113,381	63,460	222,022	132,292	3,797	41,956	43,977
ALL OWNERSHIPS	1,321,800	792,983	35,655	306,376	186,786	783,114	545,643	16,548	117,902	103,021

FOREST TYPE, SPECIES GROUP, AND CLASS OF MATERIAL	ALL OWNERSHIPS			OWNERSHIP CLASS								MISC. PRIVATE		
	BOARD FEET	CUBIC FEET	BOARD FEET	NATIONAL FOREST BOARD FEET	CUBIC FEET	OTHER PUBLIC BOARD FEET	CUBIC FEET	FOREST BOARD FEET	INDUSTRY BOARD FEET	CUBIC FEET	FARMER BOARD FEET	CUBIC FEET	BOARD FEET	CUBIC FEET
PINE TYPES:														
GROWING STOCK:														
SOFTWOOD	4,523	1,201	7,266	1,590	3,928	1,066	2,967	965	4,979	1,275	4,968	1,281		
HARDWOOD	222	117	523	189	106	62	161	73	231	138	224	132		
TOTAL	4,745	1,318	7,789	1,779	4,034	1,128	3,128	1,038	5,210	1,413	5,192	1,413		
OTHER TIMBER:														
SOFTWOOD	--	28	--	15	--	9	--	34	--	34	--	24		
HARDWOOD	--	33	--	35	--	39	--	23	--	33	--	41		
TOTAL	--	61	--	50	--	48	--	57	--	67	--	65		
OAK-PINE TYPES:														
GROWING STOCK:														
SOFTWOOD	2,841	632	7,037	1,285	2,005	458	1,738	457	3,121	676	2,732	622		
HARDWOOD	1,133	464	3,401	1,147	411	139	454	271	1,342	522	1,094	472		
TOTAL	3,974	1,096	10,438	2,432	2,416	597	2,192	728	4,463	1,198	3,826	1,094		
OTHER TIMBER:														
SOFTWOOD	--	14	--	5	--	10	--	9	--	15	--	16		
HARDWOOD	--	111	--	215	--	67	--	60	--	138	--	99		
TOTAL	--	125	--	220	--	77	--	69	--	153	--	115		
UPLAND HARDWOOD TYPES:														
GROWING STOCK:														
SOFTWOOD	589	133	2,551	403	964	206	352	89	655	148	559	125		
HARDWOOD	2,350	782	5,297	1,377	1,522	455	1,968	621	2,233	809	2,722	852		
TOTAL	2,939	915	7,848	1,780	2,486	661	2,320	710	2,888	957	3,281	977		
OTHER TIMBER:														
SOFTWOOD	--	4	--	--	--	--	--	1	--	6	--	4		
HARDWOOD	--	174	--	551	--	284	--	117	--	182	--	175		
TOTAL	--	178	--	551	--	284	--	118	--	188	--	179		
BOTTOMLAND HARDWOOD TYPES:														
GROWING STOCK:														
SOFTWOOD	1,401	310	4,082	934	1,028	244	1,654	358	872	191	1,410	314		
HARDWOOD	5,959	1,741	4,878	1,597	3,152	1,073	7,611	2,067	4,566	1,423	6,571	1,909		
TOTAL	7,360	2,051	8,960	2,531	4,180	1,317	9,265	2,425	5,458	1,614	7,981	2,223		
OTHER TIMBER:														
SOFTWOOD	--	17	--	22	--	6	--	36	--	7	--	14		
HARDWOOD	--	457	--	351	--	287	--	556	--	368	--	507		
TOTAL	--	474	--	373	--	293	--	592	--	375	--	521		
ALL TYPES:														
GROWING STOCK:														
SOFTWOOD	2,731	687	6,321	1,364	2,915	768	2,104	620	2,577	627	2,764	683		
HARDWOOD	2,262	718	2,053	679	726	255	2,497	720	2,029	697	2,630	823		
TOTAL	4,993	1,405	8,374	2,043	3,641	1,023	4,601	1,340	4,606	1,324	5,394	1,506		
OTHER TIMBER:														
SOFTWOOD	--	19	--	15	--	8	--	27	--	17	--	16		
HARDWOOD	--	182	--	146	--	105	--	187	--	173	--	207		
TOTAL	--	201	--	161	--	113	--	214	--	190	--	223		
ALL TIMBER	4,993	1,606	8,374	2,204	3,641	1,136	4,601	1,554	4,606	1,514	5,394	1,729		
ROUGH AND ROTTEN TREES:														

TABLE 25. --LAND AREA, BY CLASS, MAJOR FOREST TYPE, AND SURVEY COMPLETION DATE, 1958, 1968, AND 1978

LAND USE CLASS	SURVEY COMPLETION DATE			CHANGE 1968-1978
	1958	1968	1978	
- - - - - ACRES - - - - -				
FOREST LAND:				
COMMERCIAL FOREST LAND:				
PINE AND OAK-PINE TYPES	2,494,400	2,557,680	2,600,595	+ 42,915
HARDWOOD TYPES	2,181,800	2,125,526	2,150,891	+ 25,365
TOTAL	4,676,200	4,683,206	4,751,486	+ 68,280
NONCOMMERCIAL FOREST LAND:				
PRODUCTIVE-RESERVED	14,400	19,000	16,652	- 2,348
UNPRODUCTIVE	2,700	10,436	3,893	- 6,543
TOTAL	17,100	29,436	20,545	- 8,891
NONFOREST LAND:				
CROPLAND	2,062,400	1,881,316	1,709,100	-172,216
PASTURE AND RANGE	171,800	177,009	150,762	- 26,247
OTHER	480,900	623,617	747,778	+124,161
TOTAL	2,715,100	2,681,942	2,607,640	- 74,302
ALL LAND ¹	7,408,400	7,394,584	7,379,671	- 14,913

¹ EXCLUDES ALL WATER AREAS.

TABLE 26. -- VOLUME OF SAWTIMBER, GROWING STOCK, AND ALL LIVE TIMBER ON COMMERCIAL FOREST LAND, BY SPECIES GROUP, DIAMETER CLASS, AND SURVEY COMPLETION DATE

SPECIES GROUP	YEAR	ALL CLASSES	DIAMETER CLASS (INCHES AT BREAST HEIGHT)								
			5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0 AND LARGER
SAWTIMBER (IN THOUSAND BOARD FEET)											
SOFTWOOD	1958	8,729,696	--	--	1,341,233	1,758,019	1,589,245	1,468,622	1,055,187	599,205	918,185
	1968	10,937,770	--	--	1,537,662	2,059,142	2,085,063	1,874,448	1,263,134	874,178	1,244,143
	1978	12,973,990	--	--	1,748,760	2,380,569	2,471,881	2,212,829	1,603,818	1,000,911	1,555,222
HARDWOOD	1958	7,816,929	--	--	--	1,202,021	1,424,859	1,291,870	1,102,616	827,157	1,968,406
	1968	8,713,822	--	--	--	1,363,518	1,524,178	1,505,977	1,224,575	916,014	2,179,560
	1978	10,745,622	--	--	--	1,578,803	1,856,635	1,767,427	1,443,241	1,145,023	2,954,493
GROWING STOCK (IN THOUSAND CUBIC FEET)											
SOFTWOOD	1958	2,265,516	205,468	292,902	372,048	392,678	314,453	267,606	180,559	98,521	141,281
	1968	2,806,081	271,800	342,386	426,536	459,938	412,557	341,554	216,142	143,732	191,436
	1978	3,265,859	271,052	407,363	485,160	531,678	489,050	403,240	274,423	164,579	239,314
HARDWOOD	1958	2,506,151	209,578	253,214	329,801	360,426	355,415	285,433	222,976	156,807	332,501
	1968	2,847,447	248,738	327,279	360,191	408,851	380,189	332,739	247,639	173,652	368,169
	1978	3,412,208	283,396	367,279	426,596	473,378	463,086	390,522	291,830	217,081	499,040
ALL LIVE TIMBER (IN THOUSAND CUBIC FEET)											
SOFTWOOD	1958	2,322,740	231,254	306,581	383,537	399,021	317,868	269,558	181,399	100,060	148,462
	1968	2,883,478	292,680	358,370	439,715	467,359	417,011	344,040	217,330	145,974	201,199
	1978	3,354,537	292,586	426,400	500,225	540,426	494,345	406,229	275,719	167,126	251,481
HARDWOOD	1958	3,139,267	313,354	347,821	427,075	440,744	426,160	326,112	256,896	182,117	410,988
	1968	3,575,333	381,399	449,566	466,422	499,945	455,860	380,142	285,310	201,677	455,012
	1978	4,277,334	434,950	504,393	552,593	578,832	555,254	446,125	336,192	252,161	616,834

TO PROVIDE A BASIS FOR VALID COMPARISONS, ADJUSTMENTS HAVE BEEN MADE TO ALLOW FOR DIFFERENCES IN VOLUME TABLES AND SAWTIMBER SPECIFICATIONS USED IN PREVIOUS SURVEYS.



Craver, Gerald C.

1979. Forest statistics for the Northern Coastal Plain of South Carolina. U. S. Dep. Agric. For. Serv., Resour. Bull. BL-47, 33 p. Southeast. For. Exp. Stn., Asheville, N. C.

Since 1969, the area of commercial forest land in this 16-county area has increased by 4.3 percent and now totals 4.8 million acres. Farmer-owned woodlands decreased by about 22 percent. Softwood growing stock increased by 15 percent, hardwood growing stock increased by 29 percent, and the area of commercial forest land occupied by pine types increased by about 2 percent. Annual timber removals of growing stock totaled almost 60 percent of the net growth, more than two-thirds were softwoods. Almost 52 percent of the forest land has been treated or significantly disturbed.

KEYWORDS: Forest trends, commercial forest land, forest ownership, timber volume, timber growth, timber removals.

Craver, Gerald C.

1979. Forest statistics for the Northern Coastal Plain of South Carolina. U. S. Dep. Agric. For. Serv., Resour. Bull. BL-47, 33 p. Southeast. For. Exp. Stn., Asheville, N. C.

Since 1969, the area of commercial forest land in this 16-county area has increased by 4.3 percent and now totals 4.8 million acres. Farmer-owned woodlands decreased by about 22 percent. Softwood growing stock increased by 15 percent, hardwood growing stock increased by 29 percent, and the area of commercial forest land occupied by pine types increased by about 2 percent. Annual timber removals of growing stock totaled almost 60 percent of the net growth, more than two-thirds were softwoods. Almost 52 percent of the forest land has been treated or significantly disturbed.

KEYWORDS: Forest trends, commercial forest land, forest ownership, timber volume, timber growth, timber removals.



The Forest Service, U.S. Department of Agriculture, is dedicated to the principle of multiple management of the Nation's forest resources for sustained yields of wood, water, forage, wildlife, and recreation. Through forestry research, cooperation with the States and private forest owners, and management of the National Forest and Grasslands, it strives - as directed by Congress - to provide increasingly greater service to a growing Nation.

USDA policy does not permit discrimination because of race, color, national origin, sex or religion. Any person who believes he or she has been discriminated against in any USDA-related activity should write immediately to the Secretary of Agriculture, Washington, D.C. 20250.

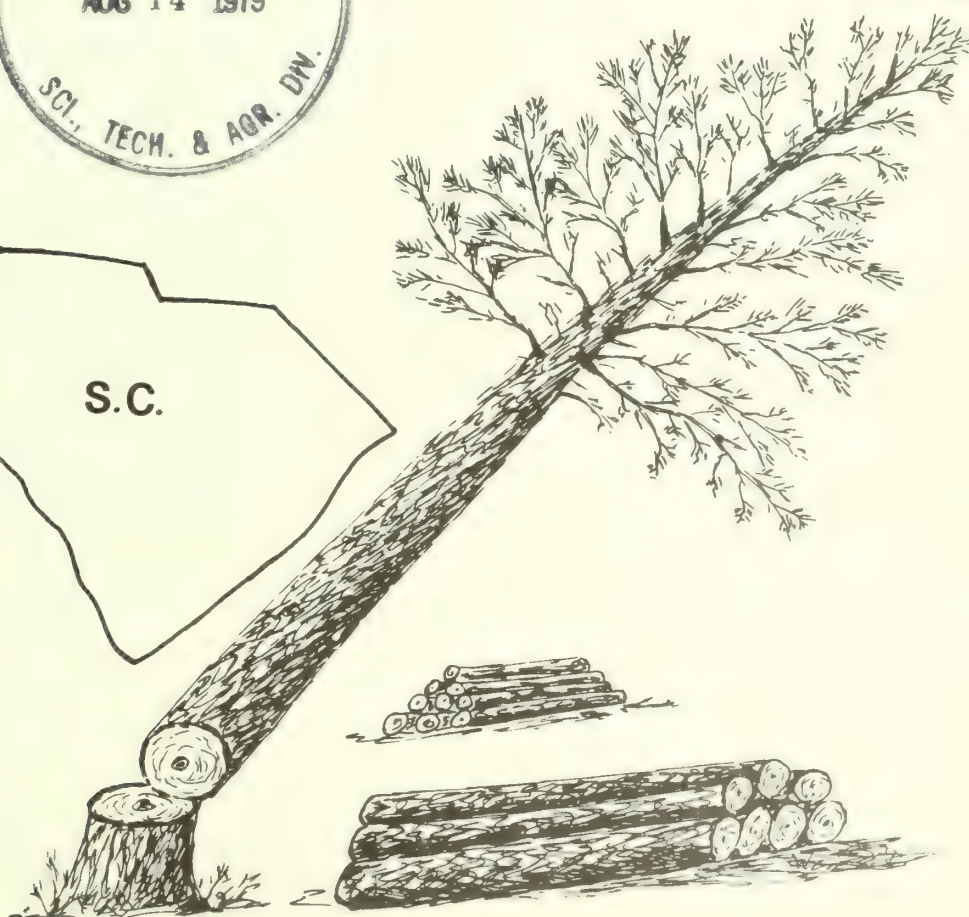
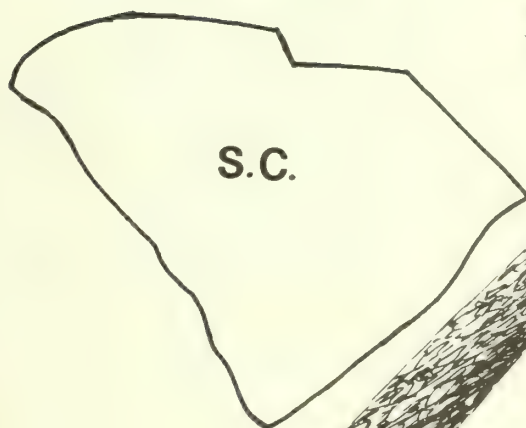


United States
Department of
Agriculture

Forest Service
Resource Bulletin
SE-48

A 10-Year Analysis of South Carolina's Industrial Timber Products Output

Richard L. Welch and Thomas R. Bellamy



June 1979
Southeastern Forest Experiment Station
Asheville, North Carolina

A 10-YEAR ANALYSIS OF SOUTH CAROLINA'S INDUSTRIAL TIMBER PRODUCTS OUTPUT

by
Richard L. Welch, Resource Analyst
and
Thomas R. Bellamy, Associate Mensurationist
Asheville, North Carolina

HIGHLIGHTS

The output of industrial timber products in South Carolina increased at an average annual rate of 2 percent between 1967 and 1976. Output from roundwood increased by 36 million cubic feet, while the output from plant byproducts increased 47 million cubic feet. Pulpwood was the leading roundwood product in the State throughout the period, followed by saw logs, and then veneer logs. At the end of the period, round pulpwood production was up by almost 10 percent, saw log production was down by almost 5 percent, and veneer log production had more than tripled. All of the gains in product output came from the softwood species group. Products from the hardwood species group declined sharply. There was a clear and constant shift in production from the Coastal forests to those along the Savannah River. The volume of unused plant residues dropped from over 22 million cubic feet to less than 6 million cubic feet.

BACKGROUND

A study of South Carolina's primary wood-using industries was made to determine the volume and source of all industrial timber products produced in 1967, by region and county (fig. 1). A similar study was to be made every 3 years thereafter to monitor changes in both the timber products output and the industries themselves. When the first followup study was made, some outstanding changes were detected and there were indications that even greater changes would

occur in the near future. To keep track of these anticipated changes, annual studies were made for the years 1972-76.

The 1967 study was made as part of the fourth renewable resources evaluation of South Carolina. In addition to timber products output, total timber removals and net annual growth for 1967 and the 1968 inventory were estimated (table 1). The results of the resource evaluation showed a very good timber situation. The inventory was increasing, and net growth exceeded total removals by about 48 percent. There were, however, some problems involving individual species and certain areas within the State. Some soft-textured hardwoods such as water tupelo, blackgum, and sweetgum, which are important in the production of veneer logs, showed little gains over the previous evaluation of 1958. Several areas in the State showed relatively small increases in softwood inventories when compared with the rest of the State (fig. 2).

The South Carolina State Commission of Forestry and the Cooperative Extension Service, Clemson University, cooperated with the Southeastern Forest Experiment Station in making these industry studies. Without their cooperation, and the excellent cooperation of the primary wood-using industries in the State, the studies would have been impossible.

The general objectives of each study remained the same as those of the 1967 study. Due to changes in conditions and changes in information needs, certain specific objectives were revised. Where changes were made to accommodate new needs, comparisons cannot be made for the full 10-year period.

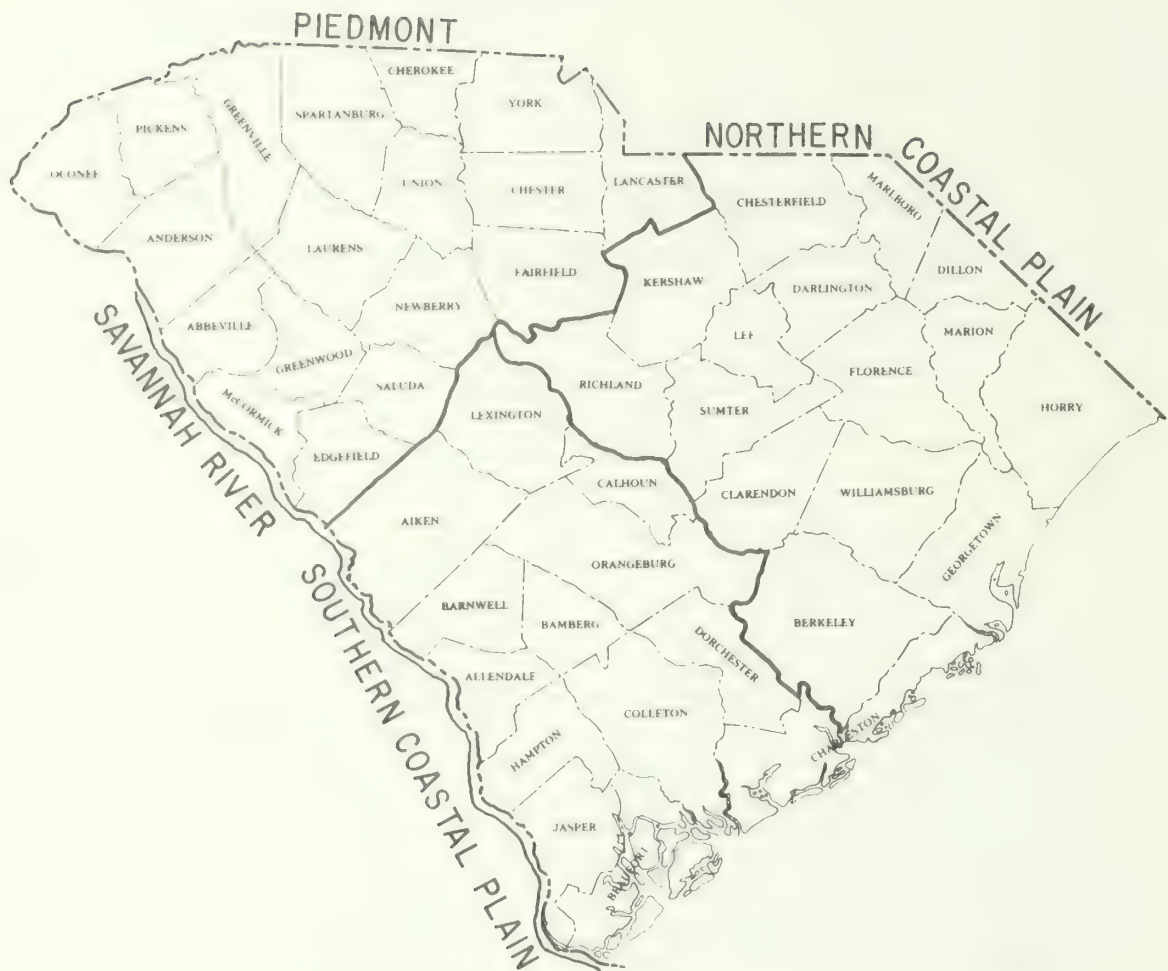


Figure 1.—Forest Survey Regions in South Carolina.

Table 1.—Results of the 1968 Renewable Resources Evaluation of South Carolina

Item	Softwood	Hardwood
- Million cubic feet -		
1968 Growing-stock inventory	6,105.8	6,145.1
1967 Growing-stock net growth	412.4	242.1
1967 Growing-stock removals:		
Industrial products output	241.1	88.8
Other removals ^{1/}	46.6	65.2
Total removals	287.7	154.0

^{1/} Includes logging residues, land clearing, timber stand improvement, and fuelwood.

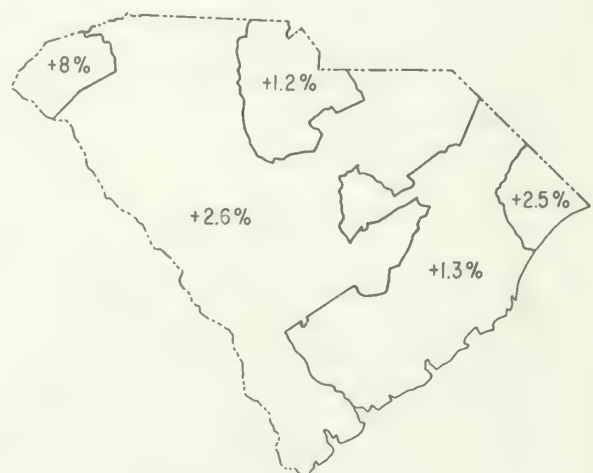


Figure 2.—Percentage of change in softwood growing stock, 1958-68, in key areas of South Carolina.

INDUSTRY TRENDS

During the 10 years 1967 through 1976, changes in the primary wood-using industries of South Carolina greatly altered the State's industrial timber products output. Output of roundwood and plant byproducts from both softwood and hardwood species groups were affected.

Two new pulpmills were constructed in the State, bringing the total to seven (table 2). In addition, three of the original five increased their pulping capacity. In total, the daily pulping capacity increased by 1,957 tons, and the corresponding increase in demand for pulpwood was 979,000 cords per year.

Table 2. --Number of primary wood-using plants, by year and industry

Industry	1967	1970	1972	1973	1974	1975	1976
----- Number of plants -----							
Sawmills	239	206	150	152	152	133	132
Veneer mills	26	27	24	24	22	26	26
Pulpmills	5	6	6	6	6	7	7
Other misc.	13	9	7	7	8	8	8
All plants	283	248	187	189	188	174	173

Between World War II and 1962, the number, capacity, and saw log receipts of sawmills declined sharply. The decline in the number of sawmills continued between 1967 and 1976, but at a much slower rate. The expanded capacity of some surviving mills, plus the added capacity of new mills, has reversed the decline of capacity and saw log receipts experienced prior to 1962. In 1976, 14 of the 132 sawmills had chipper headrigs with large capacities to produce lumber and sizable volumes of raw material for the expanding pulp industry.

Veneer log receipts were stimulated by introduction of the pine plywood industry into the State. They rose from 13 million cubic feet in 1967 to over 42 million cubic feet in 1976. Pine log receipts of the four new plywood mills approached 35 million cubic feet in 1976. The change in the veneer industry not only created a new demand for logs in the State, but residues from the mills created a new source of raw material for both pulpmills and sawmills.

Tree-length logging developed during the study period, and, as a result, sawmills and veneer mills received large volumes of raw material unsuited for their primary product. The material which could not be used for a primary

product because of defect or size limitations was converted directly into a byproduct—mainly pulpwood. No attempt was made to measure the magnitude of this volume in 1967. In 1970, however, 9 million cubic feet were produced, and by 1976 almost 24 million cubic feet were produced.

MAJOR CHANGES IN INDUSTRIAL TIMBER PRODUCTS OUTPUT

The highest output of industrial timber products occurred in 1976—just over 477 million cubic feet. The average annual rate of increase over the 10-year period was 2 percent. If this rate is maintained, the 1967 output will double by the year 2002. Output from roundwood peaked in 1974 at almost 390 million cubic feet; it then dropped sharply in 1975, and recovered to 387 million cubic feet in 1976. Output from plant byproducts of primary wood-using industries was greatest in 1976, and more than doubled during the period.

Pulpwood was the leading product in the State throughout the period. The production of pulpwood peaked in 1974 at more than 268 million cubic feet. In 1975, pulpwood production dropped below the 1972 level, and in 1976 it only rose to the 1973 level. The increase in 1976 was solely due to increased use of plant byproducts; output of round pulpwood declined between 1973 and 1976. Pulpwood from plant byproducts made up over 25 percent of the total output in 1976. Softwood pulpwood accounted for 76 percent of the 1967 production and for almost 80 percent in 1976. The output of hardwood pulpwood remained fairly constant throughout the period.

The second leading product in the State was saw logs. Saw log output was 154 million cubic feet in 1967, and 153 million cubic feet in 1976. The only year that the output of saw logs varied more than 10 percent from the 1967 level was in 1975 when it dropped to 126 million cubic feet. The output from roundwood decreased almost 7 million cubic feet during the period, but the decrease was offset by a 6-million-cubic-foot increase from plant byproducts. All the decrease in roundwood output was in the hardwood species group.

The output of veneer logs more than tripled during the period and showed gains in each year, including 1975. Veneer log output in 1967 was 13 million cubic feet; 10 years later it had grown to over 45 million cubic feet. All of the increase came in the softwood species group. The output of

hardwood veneer logs declined from 12 million cubic feet to just over 7 million cubic feet.

The output of other miscellaneous products, which include poles, piling, fence posts, and raw material for the particleboard industry, peaked in 1975 at 32 million cubic feet. In 1967, practically all of the output in the miscellaneous product group was from roundwood. By 1976, about 78 percent was from plant byproducts.

TRENDS IN PLANT RESIDUES

In 1967, the total receipts of roundwood products in South Carolina were 347.1 million cubic feet. Of the total receipts, 271.9 million cubic feet, or 78 percent, were converted to primary products, and 42.8 million cubic feet, or 12 percent, were used as industrial plant byproducts. An additional 10.1 million cubic feet were being used for fuel, leaving 22.4 million cubic feet, or over 6 percent, as unused plant residues. Coarse material such as slabs, edgings, or veneer cores made up 3.7 million cubic feet of the unused residues. No information on bark utilization was collected in the 1967 study.

In 1976, the total receipts of roundwood products, including round pulpwood chipped at mills other than pulpmills, amounted to 390.8 million cubic feet. Of the total receipts, 281.4 million cubic feet, or 72 percent, were converted to primary products. The volume in industrial plant byproducts was 89.9 million cubic feet, or more than twice the amount produced in 1967. The volume used as fuel rose by almost 40 percent to 13.7 million cubic feet, and the volume of unused residues dropped to 5.8 million cubic feet, or 1.5 percent of the total 1976 roundwood receipts. Only 457,000 cubic feet of coarse residues were not utilized in 1976.

The earliest figures available on bark residues are for 1970. In that year, South Carolina's primary wood-using industries received approximately 39.3 million cubic feet of bark. Over 28 percent, or 11.2 million cubic feet, was not utilized. Of the bark that was utilized, 26 million cubic feet were used as fuel and the rest as charcoal, mulch, and other byproducts. In 1976, the total volume of bark received was 39.1 million cubic feet, and only 12 percent, or 4.6 million cubic feet, was not utilized. The volume used as fuel increased by 3.6 million cubic feet over the 1970 figure, and the volume used in other products increased by 2.8 million cubic feet.

ROUNDWOOD MOVEMENT IN 1976

In 1976, South Carolina's industrial timber products output from roundwood exceeded the roundwood receipts at primary wood-using plants in the State by almost 6 percent. Production of roundwood products amounted to 387 million cubic feet, while mill receipts were just under 366 million cubic feet. Over 21 percent of the State's roundwood output was shipped to other states, and almost 16 percent of the State's mill receipts came from other states. The imbalance of trade between South Carolina and its neighbors was about the same for both the hardwood and softwood species groups.

The Northern Coastal Plain was the only Region in the State where mill receipts exceeded roundwood output. In this Region, receipts exceeded output by over 54 million cubic feet in 1967 and by almost 22 million cubic feet in 1976. The change over the 10-year period was due largely to substitution of plant byproducts for roundwood as a source of raw material by the pulp industry.

Only 47 percent of the roundwood output of the Southern Coastal Plain was retained in that Region, and the roundwood output exceeded receipts by 38 percent. In 1967, roundwood output exceeded receipts by 67 percent. However, new industry has caused receipts to increase much faster than the Region's product output.

In the Piedmont, 60 percent of the roundwood output was retained in the Region, and the roundwood output exceeded receipts by 22 percent. In 1967, roundwood output exceeded receipts by 28 percent. Receipts have increased by 24 percent over the 10-year period, while roundwood output has increased by only 19 percent.

SHIFTS IN TIMBER PRODUCTS OUTPUT

Whereas State and regional figures provide a good overview of changes which have occurred in the roundwood products output, such changes are rarely uniform statewide, or completely confined to a single region. By studying the county roundwood output figures in tables 3 through 17, it is possible to determine the areas where major changes have occurred.

During the 10-year period, round softwood output generally declined on the Coastal Plain, and in two smaller areas along the State's northern border (fig. 3). A decline in output in the

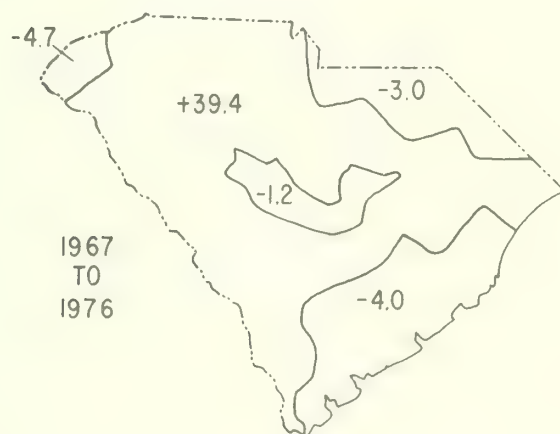
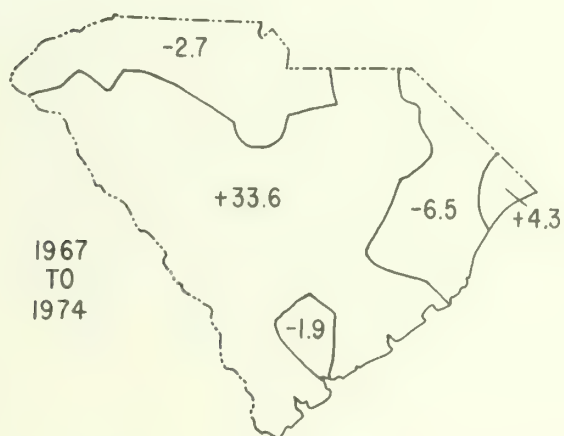
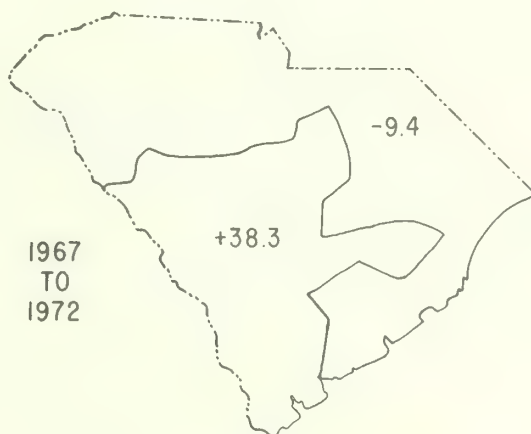
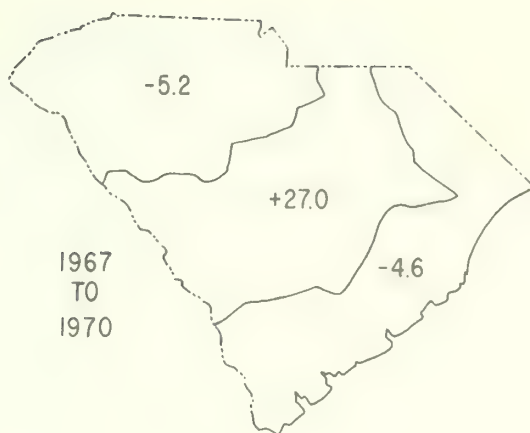
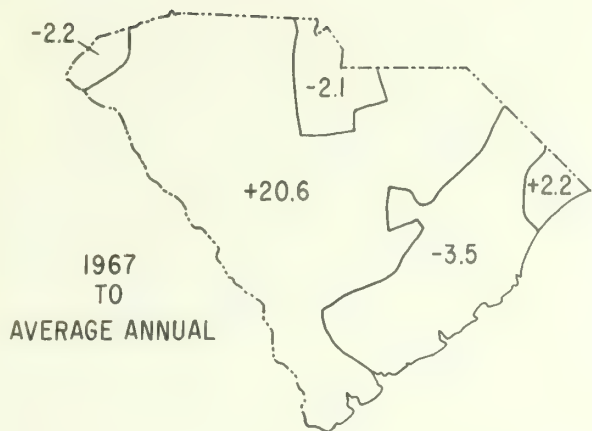


Figure 3.—Changes in softwood industrial timber products output from roundwood, in million cubic feet.

northwest corner of the State was the result of a short-term inflated harvest in 1967 when a large area was being cleared to construct a reservoir. The general decline in softwood output, which was greatest along the coast, was more than offset by increases which were greatest along the Savannah River.

In 1975, two unique conditions resulted in a major shift in softwood products output. First, a recession forced roundwood receipts down by 24 million cubic feet and roundwood output down by 13 million cubic feet in the State. Second, a southern pine beetle epidemic in the northwestern part of the State created a need for extensive salvage cutting. As a result, round softwood output increased in the northwest by 7 million cubic feet and decreased in the southeast by 20 million cubic feet (fig. 4).

The output of round hardwood products was on a downward trend throughout most of the 10-year period (fig. 5). Although the decline in hardwood output was Statewide, the greatest decline occurred in the eastern part of the State and the smallest along the Savannah River.

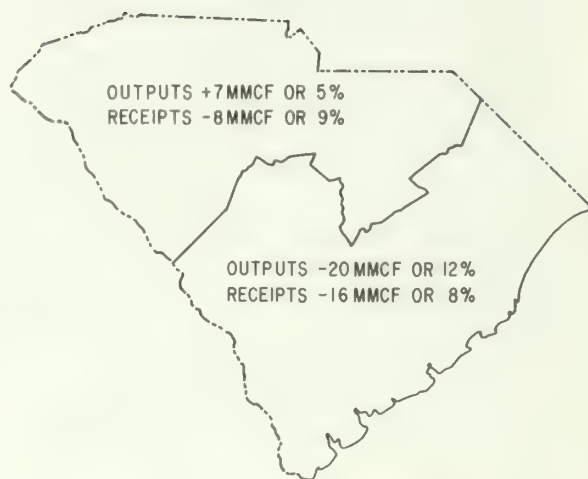


Figure 4.—Changes in round softwood timber products output and receipts, 1974 to 1975.

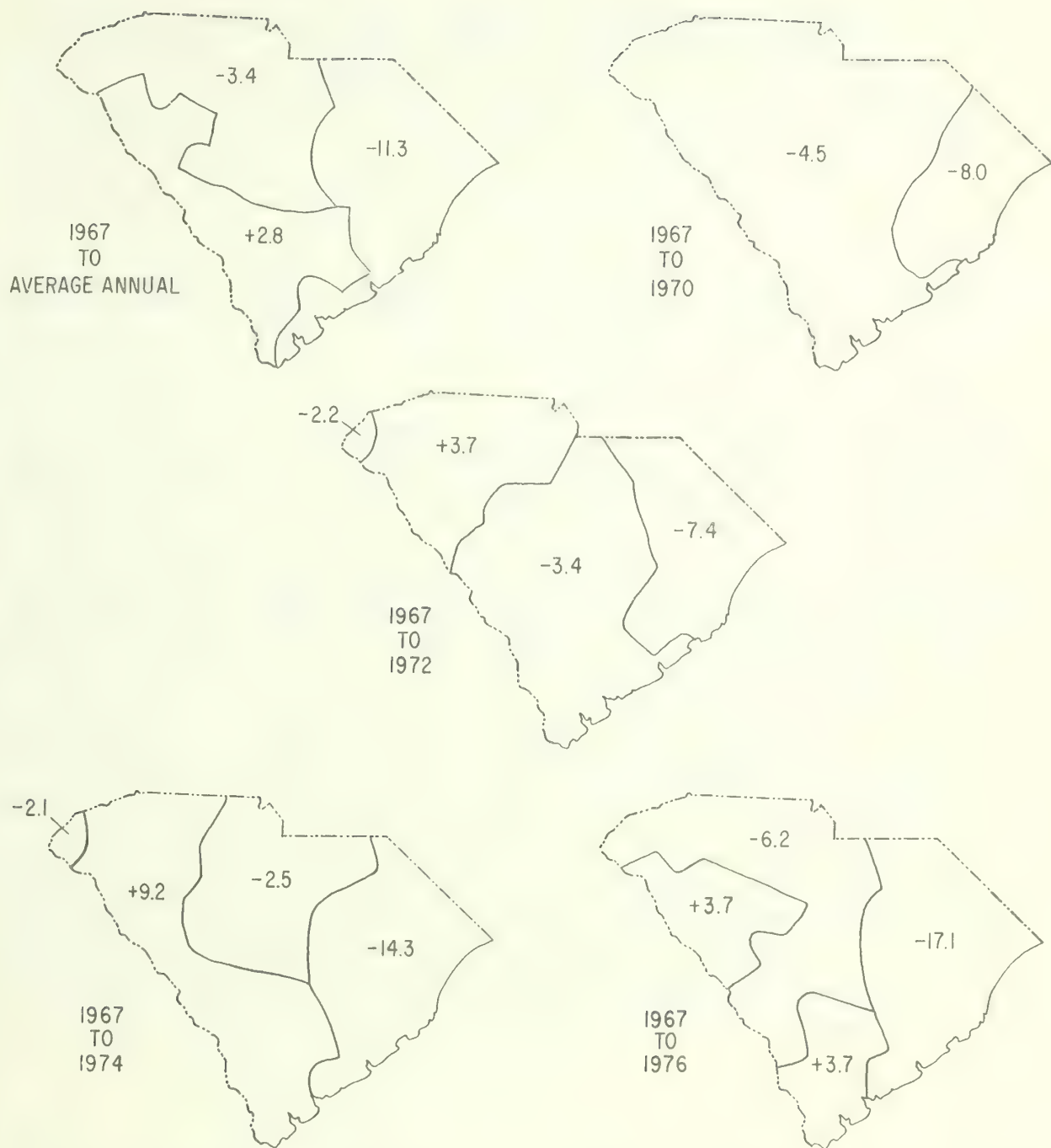


Figure 5.—Changes in hardwood industrial timber products output from roundwood, in million cubic feet.

Table 3.--Volume of roundwood output of industrial timber products in thousand cubic feet, by year, product, and species group, South Carolina

Product and species group	1967	1970	1972	1973	1974	1975	1976
- - - - - Thousand cubic feet - - - - -							
Saw logs:							
Softwood	111,572	104,222	114,245	115,634	105,770	93,750	115,089
Hardwood	42,605	36,884	39,662	34,489	35,389	29,232	32,138
Total	154,177	141,106	153,907	150,123	141,159	122,982	147,227
Veneer logs:							
Softwood	851	9,954	14,007	17,450	31,938	34,049	37,687
Hardwood	12,135	9,132	8,644	9,181	7,232	6,452	7,397
Total	12,986	19,086	22,651	26,631	39,170	40,501	45,084
Pulpwood: ^{1/}							
Softwood	131,784	149,074	147,710	158,007	159,825	158,327	149,109
Hardwood	42,325	38,998	39,555	43,222	44,572	37,178	42,048
Total	174,109	188,072	187,265	201,229	204,397	195,505	191,157
Miscellaneous:							
Softwood	9,144	5,284	6,241	5,677	4,772	3,428	3,808
Hardwood	432	--	--	8	8	8	24
Total	9,576	5,284	6,241	5,685	4,780	3,436	3,832
All industrial:							
Softwood	253,351	268,534	282,203	296,768	302,305	289,554	305,693
Hardwood	97,497	85,014	87,861	86,900	87,201	72,870	81,607
Total	350,848	353,548	370,064	383,668	389,506	362,424	387,300

^{1/} Excludes round pulpwood chipped at other primary wood-using industries.

Table 4.--Volume of roundwood output of industrial timber products in thousand cubic feet, by year, product, and species group, Southern Coastal Plain Region

Product and species group	1967	1970	1972	1973	1974	1975	1976
----- Thousand cubic feet -----							
Saw logs:							
Softwood	26,279	28,952	36,571	42,678	34,449	31,297	35,571
Hardwood	7,201	9,759	9,081	8,873	9,707	8,347	9,028
Total	33,480	38,711	45,652	51,551	44,156	39,644	44,599
Veneer logs:							
Softwood	--	981	5,815	5,544	9,167	6,220	3,798
Hardwood	4,822	3,154	3,026	3,687	2,659	2,504	1,975
Total	4,822	4,135	8,841	9,231	11,826	8,724	5,773
Pulpwood: ^{1/}							
Softwood	26,558	25,390	32,978	37,620	37,810	30,839	28,895
Hardwood	8,051	5,295	5,923	7,476	10,035	7,496	10,738
Total	34,609	30,685	38,901	45,096	47,845	38,335	39,633
Miscellaneous:							
Softwood	2,562	1,337	1,058	1,693	2,196	1,671	1,754
Hardwood	20	--	--	2	2	2	6
Total	2,582	1,337	1,058	1,695	2,198	1,673	1,760
All industrial:							
Softwood	55,399	56,660	76,422	87,535	83,622	70,027	70,018
Hardwood	20,094	18,208	18,030	20,038	22,403	18,349	21,747
Total	75,493	74,868	94,452	107,573	106,025	88,376	91,765

^{1/} Excludes roundwood chipped at other primary wood-using industries.

Table 5.--Volume of roundwood output of industrial timber products in thousand cubic feet, by year, product, and species group, Northern Coastal Plain Region

Product and species group	1967	1970	1972	1973	1974	1975	1976
- - - - - Thousand cubic feet - - - - -							
Saw logs:							
Softwood	48,995	43,924	44,868	37,532	37,410	34,163	44,660
Hardwood	22,500	17,383	17,996	13,736	14,734	12,448	13,594
Total	71,495	61,307	62,864	51,268	52,144	46,611	58,254
Veneer logs:							
Softwood	851	8,973	8,192	11,906	17,312	20,783	21,463
Hardwood	7,313	5,409	5,125	5,054	3,998	3,453	4,794
Total	8,164	14,382	13,317	16,960	21,310	24,236	26,257
Pulpwood: ^{1/}							
Softwood	46,180	54,172	51,424	51,881	52,141	48,006	44,120
Hardwood	19,334	18,565	19,087	20,255	17,007	14,214	15,963
Total	65,514	72,737	70,511	72,136	69,148	62,220	60,083
Miscellaneous:							
Softwood	4,384	3,581	5,133	3,934	2,569	1,757	2,051
Hardwood	205	--	--	2	2	2	6
Total	4,589	3,581	5,133	3,936	2,571	1,759	2,057
All industrial:							
Softwood	100,410	110,650	109,617	105,253	109,432	104,709	112,294
Hardwood	49,352	41,357	42,208	39,047	35,741	30,117	34,357
Total	149,762	152,007	151,825	144,300	145,173	134,826	146,651

^{1/} Excludes roundwood chipped at other primary wood-using industries.

Table 6.--Volume of roundwood output of industrial timber products in thousand cubic feet, by year, product, and species group, Piedmont Region

Product and species group	1967	1970	1972	1973	1974	1975	1976
- - - - - Thousand cubic feet - - - - -							
Saw logs:							
Softwood	36,298	31,346	32,806	35,424	33,911	28,290	34,858
Hardwood	12,904	9,742	12,585	11,880	10,948	8,437	9,516
Total	49,202	41,088	45,391	47,304	44,859	36,727	44,374
Veneer logs:							
Softwood	--	--	--	--	5,459	7,046	12,426
Hardwood	--	569	493	440	575	495	628
Total	--	569	493	440	6,034	7,541	13,054
Pulpwood: ^{1/}							
Softwood	59,046	69,512	63,308	68,506	69,874	79,482	76,094
Hardwood	14,940	15,138	14,545	15,491	17,530	15,468	15,347
Total	73,986	84,650	77,853	83,997	87,404	94,950	91,441
Miscellaneous:							
Softwood	2,198	366	50	50	7	--	3
Hardwood	207	--	--	4	4	4	12
Total	2,405	366	50	54	11	4	15
All industrial:							
Softwood	97,542	101,224	96,164	103,980	109,251	114,818	123,381
Hardwood	28,051	25,449	27,623	27,815	29,057	24,404	25,503
Total	125,593	126,673	123,787	131,795	138,308	139,222	148,884

^{1/} Excludes roundwood chipped at other primary wood-using industries.

Table 7.--Volume of roundwood output of industrial timber products in standard units,
by year, product, and species group, South Carolina

Product and species group	Standard units	1967	1970	1972	1973	1974	1975	1976
----- Number of units -----								
Saw logs:								
Softwood	M fbm ^{1/}	687,111	663,857	727,792	736,679	673,836	597,247	733,187
Hardwood	M fbm ^{1/}	271,144	237,979	256,004	222,623	228,470	188,718	207,460
Total	M fbm ^{1/}	958,255	901,836	983,796	959,302	902,306	785,965	940,647
Veneer logs:								
Softwood	M fbm ^{1/}	5,599	65,508	92,215	114,865	210,199	224,098	248,057
Hardwood	M fbm ^{1/}	73,006	61,217	58,127	61,737	48,663	43,423	49,751
Total	M fbm ^{1/}	78,605	126,725	150,342	176,602	258,862	267,521	297,808
Pulpwood: ^{2/}								
Softwood	Cords	1,776,068	2,009,093	1,990,989	2,129,722	2,154,268	2,134,090	2,009,860
Hardwood	Cords	595,284	548,496	556,601	608,270	627,197	523,208	591,675
Total	Cords	2,371,352	2,557,589	2,547,590	2,737,992	2,781,465	2,657,298	2,601,535
Miscellaneous:								
Softwood	M ft ³	3,556	768	3,609	3,209	2,786	1,986	2,184
Hardwood	M ft ³	2,066	--	--	72	72	72	164
Total	M ft ³	5,622	768	3,609	3,281	2,858	2,058	2,348

^{1/} International $\frac{1}{4}$ -Inch Rule.

^{2/} Excludes roundwood chipped at other primary wood-using industries.

Table 8.--Volume of roundwood output of industrial timber products in standard units, by year, product, and species group, Southern Coastal Plain Region

Product and species group	Standard units	1967	1970	1972	1973	1974	1975	1976
- - - - - Number of units - - - - -								
Saw logs:								
Softwood	M fbm ^{1/}	167,387	184,407	232,973	271,874	219,458	199,372	226,600
Hardwood	M fbm ^{1/}	46,438	63,007	58,612	57,269	62,662	53,883	58,266
Total	M fbm ^{1/}	213,825	247,414	291,585	329,143	282,120	253,255	284,866
Veneer logs:								
Softwood	M fbm ^{1/}	--	6,458	38,290	36,496	60,325	40,933	25,021
Hardwood	M fbm ^{1/}	32,344	21,135	20,344	24,778	17,878	16,837	13,284
Total	M fbm ^{1/}	32,344	27,593	58,634	61,274	78,203	57,770	38,305
Pulpwood: ^{2/}								
Softwood	Cords	357,931	342,187	444,516	507,065	509,627	415,695	389,487
Hardwood	Cords	113,229	74,471	83,337	105,220	141,184	105,514	151,108
Total	Cords	471,160	416,658	527,853	612,285	650,811	521,209	540,595
Miscellaneous:								
Softwood	M ft ³	701	82	588	940	1,219	929	975
Hardwood	M ft ³	34	--	--	18	18	18	41
Total	M ft ³	735	82	588	958	1,237	947	1,016

^{1/} International $\frac{1}{4}$ -Inch Rule.

^{2/} Excludes roundwood chipped at other primary wood-using industries.

Table 9.--Volume of roundwood output of industrial timber products in standard units, by year, product, and species group, Northern Coastal Plain Region

Product and species group	Standard units	1967	1970	1972	1973	1974	1975	1976
- - - - - Number of units - - - - -								
Saw logs:								
Softwood	M fbm ^{1/}	312,093	279,781	285,815	239,118	238,332	217,641	284,514
Hardwood	M fbm ^{1/}	145,220	112,119	116,152	88,659	95,109	80,363	87,747
Total	M fbm ^{1/}	457,313	391,900	401,967	327,777	333,441	298,004	372,261
Veneer logs:								
Softwood	M fbm ^{1/}	5,599	59,050	53,925	78,369	113,937	136,777	141,247
Hardwood	M fbm ^{1/}	49,104	36,270	34,445	33,965	26,873	23,222	32,220
Total	M fbm ^{1/}	54,703	95,320	88,370	112,334	140,810	159,999	173,467
Pulpwood: ^{2/}								
Softwood	Cords	622,375	730,086	693,125	699,297	702,833	647,092	594,718
Hardwood	Cords	271,932	261,113	268,570	285,028	239,323	200,032	224,590
Total	Cords	894,307	991,199	961,695	984,325	942,156	847,124	819,308
Miscellaneous:								
Softwood	M ft ³	632	452	2,971	2,219	1,557	1,057	1,204
Hardwood	M ft ³	329	--	--	18	18	18	41
Total	M ft ³	961	452	2,971	2,237	1,575	1,075	1,245

^{1/} International $\frac{1}{4}$ -Inch Rule.

^{2/} Excludes roundwood chipped at other primary wood-using industries.

Table 10.--Volume of roundwood output of industrial timber products in standard units, by year, product, and species group, Piedmont Region

Product and species group	Standard units	1967	1970	1972	1973	1974	1975	1976
----- Number of units -----								
Saw logs:								
Softwood	M fbm ^{1/}	231,197	199,669	209,004	225,687	216,046	180,234	222,073
Hardwood	M fbm ^{1/}	83,292	62,853	81,240	76,695	70,699	54,472	61,447
Total	M fbm ^{1/}	314,489	262,522	290,244	302,382	286,745	234,706	283,520
Veneer logs:								
Softwood	M fbm ^{1/}	--	--	--	--	35,937	46,388	81,784
Hardwood	M fbm ^{1/}	--	3,812	3,338	2,994	3,912	3,364	4,247
Total	M fbm ^{1/}	--	3,812	3,338	2,994	39,849	49,752	86,031
Pulpwood: ^{2/}								
Softwood	Cords	795,762	936,820	853,348	923,360	941,808	1,071,303	1,025,655
Hardwood	Cords	210,123	212,912	204,694	218,022	246,690	217,662	215,977
Total	Cords	1,005,885	1,149,732	1,058,042	1,141,382	1,188,498	1,288,965	1,241,632
Miscellaneous:								
Softwood	M ft ³	2,390	234	50	50	10	--	5
Hardwood	M ft ³	1,892	--	--	36	36	36	82
Total	M ft ³	4,282	234	50	86	46	36	87

^{1/} International $\frac{1}{4}$ -Inch Rule.

^{2/} Excludes roundwood chipped at other primary wood-using industries.

Table 11.--Volume of industrial timber products from plant byproducts, by year, product, and species group, South Carolina

Product and species group	1967	1970	1972	1973	1974	1975	1976
- - - - - Thousand cubic feet - - - - -							
Sawn:							
Softwood	--	50	3,349	3,311	3,693	2,789	6,261
Hardwood	233	450	44	277	280	2	2
Total	233	500	3,393	3,588	3,973	2,791	6,263
Pulpwood: ^{1/}							
Softwood	31,815	42,168	56,073	47,325	51,103	42,576	57,918
Hardwood	10,478	12,442	13,741	12,694	13,266	9,685	12,307
Total	42,293	54,610	69,814	60,019	64,369	52,261	70,225
Miscellaneous:							
Softwood	38	--	8,953	13,704	13,506	14,529	12,645
Hardwood	197	--	99	1,254	1,298	4,306	768
Total	235	--	9,052	14,958	14,804	18,835	13,413
All industrial:							
Softwood	31,853	42,218	68,375	64,340	68,302	59,894	76,824
Hardwood	10,908	12,892	13,884	14,225	14,844	13,993	13,077
Total	42,761	55,110	82,259	78,565	83,146	73,887	89,901

^{1/} Includes round pulpwood chipped at other primary wood-using industries

Table 12.--Industrial roundwood movement, by
species group, South Carolina, 1976

Movement	Softwood	Hardwood	All species
- - - <u>Thousand cubic feet</u> - - -			
Output	305,693	81,607	387,300
Retained	244,106	61,850	305,956
Shipped out	61,587	19,757	81,344
Shipped in	43,389	13,577	56,966
Receipts	287,495	75,427	362,922

Table 13.--Industrial roundwood movement by Region
and species group, 1976

Species group	Southern Coastal Plain	Northern Coastal Plain	Piedmont
---------------	---------------------------	---------------------------	----------

- - - - - Thousand cubic feet - - - - -

Softwood:

Output	70,018	112,294	123,381
Retained	34,076	75,191	77,390
Shipped out	35,942	37,103	45,991
Shipped in	21,425	49,017	29,899
Receipts	55,501	124,208	107,289

Hardwood:

Output	21,747	34,357	25,503
Retained	8,753	27,885	11,924
Shipped out	12,994	6,472	13,579
Shipped in	2,219	16,066	2,627
Receipts	10,972	43,951	14,551

All species:

Output	91,765	146,651	148,884
Retained	42,829	103,076	89,314
Shipped out	48,936	43,575	59,570
Shipped in	23,644	65,083	32,526
Receipts	66,473	168,159	121,840

Table 14.--Volume of unused plant residues at primary wood-using industries,
by year, species group, and type of residue

Species group :	:	:	:	:	:	:	:
and type of :	1967	1970	1972	1973	1974	1975	1976
residue :	:	:	:	:	:	:	:

- - - - - Thousand cubic feet - - - - -

Softwood:

Bark	--	6,878	6,205	5,583	5,434	2,290	2,642
Coarse	1,623	1,255	347	294	191	313	319
Shavings	(1/)	(1/)	254	336	250	85	217
Other fine	12,776	14,989	5,867	10,891	2,353	1,779	2,115
Total	14,399	23,122	12,673	17,104	8,228	4,467	5,293

Hardwood:

Bark	--	4,286	2,884	3,642	2,612	1,459	1,940
Coarse	2,038	976	466	366	305	322	138
Shavings	(1/)	(1/)	--	112	90	40	77
Other fine	5,956	8,593	4,457	5,865	4,037	2,106	2,912
Total	7,994	13,855	7,807	9,985	7,044	3,927	5,067

All species:

Bark	--	11,164	9,089	9,225	8,046	3,749	4,582
Coarse	3,661	2,231	813	660	496	635	457
Shavings	(1/)	(1/)	254	448	340	125	294
Other fine	18,732	23,582	10,324	16,756	6,390	3,885	5,027
Total	22,393	36,977	20,480	27,089	15,272	8,394	10,360

1/ Included with other fine.

Table 15.--Volume of unused plant residues at primary wood-using industries,
by year, species group, and industry

Species group and industry	1967	1970	1972	1973	1974	1975	1976
- - - - - Thousand cubic feet - - - - -							
Softwood:							
Lumber	14,302	16,155	6,452	11,471	2,769	2,176	2,545
Veneer	25	84	5	50	11	--	--
Other	72	5	11	--	14	1	106
Total	14,399	16,244	6,468	11,521	2,794	2,177	2,651
Hardwood:							
Lumber	7,681	8,107	4,467	4,985	3,377	2,152	2,748
Veneer	166	760	456	1,358	1,055	315	378
Other	147	702	--	--	--	1	1
Total	7,994	9,569	4,923	6,343	4,432	2,468	3,127
All species:							
Lumber	21,983	24,262	10,919	16,456	6,146	4,328	5,293
Veneer	191	844	461	1,408	1,066	315	378
Other	219	707	11	--	14	2	107
Total	22,393	25,813	11,393	17,864	7,226	4,645	5,778

Table 16.--Softwood-roundwood output of industrial timber products,
by year, region, and county, South Carolina

Region and county	1967	1970	1972	1973	1974	1975	1976
- - - - - Thousand cubic feet - - - - -							
Southern Coastal Region:							
Aiken	5,331	5,594	10,040	12,919	11,296	7,901	8,356
Allendale	2,032	2,469	3,366	5,320	5,477	4,855	5,758
Bamberg	2,421	2,927	2,167	6,049	2,965	3,140	4,524
Barnwell	1,754	2,589	4,852	7,169	4,783	4,437	5,345
Beaufort	1,007	1,604	1,986	1,191	1,860	1,644	806
Calhoun	2,012	2,182	2,217	2,615	3,171	1,472	1,604
Colleton	12,545	9,829	12,947	10,907	10,649	10,829	12,248
Dorchester	6,841	6,873	5,651	6,288	7,395	6,711	7,331
Hampton	5,587	4,353	7,564	9,375	6,787	8,437	5,869
Jasper	5,286	4,716	8,226	6,801	9,403	7,379	7,101
Lexington	5,099	5,358	6,513	5,814	6,044	5,283	4,748
Orangeburg	5,484	8,166	10,893	13,087	13,792	7,939	6,328
Total	55,399	56,660	76,422	87,535	83,622	70,027	70,018
Northern Coastal Region:							
Berkeley	13,027	15,212	12,568	11,977	15,168	12,630	11,453
Charleston	5,908	8,327	5,496	7,002	7,438	7,026	5,894
Chesterfield	5,418	6,182	5,029	5,884	6,182	6,493	5,718
Clarendon	4,582	9,413	6,857	5,470	6,179	6,258	6,229
Darlington	3,024	4,164	3,393	2,240	3,803	3,458	3,314
Dillon	2,590	1,747	3,427	3,501	2,203	1,790	2,293
Florence	7,972	8,343	7,575	6,551	7,601	6,936	8,386
Georgetown	13,882	13,090	12,872	11,487	10,859	11,032	11,526
Horry	8,475	6,666	9,171	12,643	12,747	12,862	12,072
Kershaw	6,488	8,195	10,028	8,399	8,144	7,664	8,423
Lee	917	1,798	1,837	1,894	1,730	2,634	1,880
Marion	4,191	4,677	3,629	4,294	2,968	3,072	4,631
Marlboro	2,250	2,218	2,646	2,618	2,120	2,413	2,436
Richland	3,975	6,620	8,003	6,080	7,618	6,242	9,334
Sumter	5,380	4,408	3,827	3,409	3,726	4,108	5,011
Williamsburg	12,331	9,590	13,259	11,804	10,946	10,091	13,694
Total	100,410	110,650	109,617	105,253	109,432	104,709	112,294

Continued

Table 16.--Softwood-roundwood output of industrial timber products,
by year, region, and county, South Carolina--Continued

Region and county	1967	1970	1972	1973	1974	1975	1976
- - - - - Thousand cubic feet - - - - -							
Piedmont Region:							
Abbeville	2,831	2,945	2,843	3,939	5,499	4,994	6,045
Anderson	2,429	2,522	3,555	5,598	3,870	5,084	5,218
Cherokee	1,025	1,238	1,182	1,677	2,170	1,465	2,908
Chester	6,667	4,898	5,541	5,375	4,405	6,802	6,292
Edgefield	6,479	8,826	8,424	10,880	9,405	8,509	10,513
Fairfield	13,490	14,838	9,667	8,878	9,496	10,504	16,819
Greenville	2,098	1,740	1,752	2,354	1,924	3,330	4,327
Greenwood	7,347	6,769	7,809	8,937	6,493	6,312	7,444
Lancaster	3,991	3,738	3,036	3,772	4,033	4,689	3,996
Laurens	4,630	4,642	5,327	4,410	7,349	5,291	6,977
McCormick	8,086	11,327	9,002	7,166	6,655	6,918	11,739
Newberry	12,451	11,713	10,829	13,025	16,837	21,386	18,393
Oconee	6,151	4,480	4,277	4,452	4,945	4,683	2,646
Pickens	3,088	2,561	2,318	2,823	2,867	2,193	1,917
Saluda	4,971	6,756	7,758	7,743	7,394	7,931	4,960
Spartanburg	2,587	1,867	2,921	3,640	4,657	4,926	3,370
Union	5,749	6,782	6,147	5,524	6,677	5,910	5,410
York	3,472	3,582	3,776	3,787	4,575	3,891	4,407
Total	97,542	101,224	96,164	103,980	109,251	114,818	123,381
Total State	253,351	268,534	282,203	296,768	302,305	289,554	305,693

Table 17.--Hardwood-roundwood output of industrial timber products,
by year, region, and county, South Carolina

Region and county	1967	1970	1972	1973	1974	1975	1976
- - - - - Thousand cubic feet - - - - -							
Southern Coastal Region:							
Aiken	1,154	1,151	1,484	1,494	1,349	1,234	1,147
Allendale	921	1,083	929	1,062	1,382	554	738
Bamberg	1,462	1,581	2,342	1,638	1,356	1,070	1,352
Barnwell	1,066	556	623	815	605	409	530
Beaufort	356	213	234	624	239	289	407
Calhoun	1,057	625	532	591	483	942	528
Colleton	3,525	3,692	2,611	2,006	4,705	3,024	4,413
Dorchester	2,236	1,883	1,913	2,399	3,413	2,104	2,143
Hampton	1,931	1,441	1,496	2,493	1,928	1,979	2,398
Jasper	1,703	869	1,047	2,844	2,056	1,522	2,184
Lexington	1,340	1,029	842	674	789	987	688
Orangeburg	3,343	4,085	3,977	3,398	4,098	4,235	5,219
Total	20,094	18,208	18,030	20,038	22,403	18,349	21,747
Northern Coastal Region:							
Berkeley	3,080	1,856	2,240	2,878	2,174	1,275	1,312
Charleston	1,593	1,103	1,699	1,221	1,448	933	1,163
Chesterfield	2,140	1,762	1,845	1,867	2,390	2,002	1,983
Clarendon	2,592	2,815	2,445	1,465	1,803	1,607	1,485
Darlington	2,954	2,335	2,268	2,266	1,623	2,000	1,792
Dillon	1,445	1,029	1,926	1,290	1,038	672	763
Florence	4,581	2,979	3,667	3,565	2,397	2,282	3,643
Georgetown	3,371	2,870	3,158	2,166	3,210	1,714	1,625
Horry	4,452	2,474	2,922	2,663	2,802	2,587	2,538
Kershaw	3,089	3,046	3,120	2,606	2,756	2,913	4,386
Lee	1,019	877	1,287	755	593	429	669
Marion	4,416	4,239	3,169	3,289	2,779	1,377	2,479
Marlboro	2,675	4,006	1,715	2,117	2,096	2,244	2,148
Richland	2,064	1,943	2,698	3,209	2,885	3,185	2,988
Sumter	3,995	4,282	3,447	3,214	2,304	1,172	1,467
Williamsburg	5,886	3,741	4,602	4,476	3,443	3,725	3,916
Total	49,352	41,357	42,208	39,047	35,741	30,117	34,357

Continued

Table 17.--Hardwood-roundwood output of industrial timber products,
by year, region, and county, South Carolina--Continued

Region and county	1967	1970	1972	1973	1974	1975	1976
- - - - - Thousand cubic feet - - - - -							
Piedmont Region:							
Abbeville	857	656	1,138	952	1,538	756	1,515
Anderson	1,665	1,501	1,552	1,806	2,027	1,945	1,870
Cherokee	440	380	596	958	1,058	240	467
Chester	1,446	1,399	1,748	1,625	1,174	1,355	1,344
Edgefield	1,180	1,223	891	1,571	1,477	732	1,241
Fairfield	2,941	2,730	1,710	1,868	1,802	1,198	1,429
Greenville	1,401	767	1,381	1,394	900	1,196	1,181
Greenwood	1,300	1,074	1,809	1,918	1,870	1,292	1,117
Lancaster	1,517	1,683	1,551	1,792	1,428	1,473	1,014
Laurens	1,101	1,901	2,707	2,213	2,655	1,349	1,899
McCormick	651	1,012	1,089	1,798	1,175	2,244	2,304
Newberry	1,752	1,644	1,248	1,172	1,425	1,276	2,352
Oconee	4,537	2,598	2,322	1,259	2,410	1,722	1,528
Pickens	1,844	1,530	2,252	1,843	2,807	2,888	1,870
Saluda	935	943	1,130	876	844	1,256	444
Spartanburg	1,201	1,152	1,364	1,268	1,598	989	1,091
Union	1,535	1,036	1,190	1,481	1,406	1,219	1,608
York	1,748	2,220	1,945	2,021	1,463	1,274	1,229
Total	28,051	25,449	27,623	27,815	29,057	24,404	25,503
Total State	97,497	85,014	87,861	86,900	87,201	72,870	81,607



Welch, Richard L., and Thomas R. Bellamy

1979. A 10-year analysis of South Carolina's industrial timber products output. U.S. Dep. Agric. For. Serv., Resour. Bull. SE-48, 23 p. Southeast. For. Exp. Stn., Asheville, N. C.

The output of industrial timber products in South Carolina increased at an average annual rate of 2 percent between 1967 and 1976. Output from roundwood increased by 36 million cubic feet, while the output from plant byproducts increased 47 million cubic feet. Pulpwood was the leading roundwood product in the State throughout the period, followed by saw logs, and then veneer logs.

KEYWORDS: Roundwood products, plant byproducts, softwood products, hardwood products, unused plant residues, roundwood receipts.

Welch, Richard L., and Thomas R. Bellamy

1979. A 10-year analysis of South Carolina's industrial timber products output. U.S. Dep. Agric. For. Serv., Resour. Bull. SE-48, 23 p. Southeast. For. Exp. Stn., Asheville, N. C.

The output of industrial timber products in South Carolina increased at an average annual rate of 2 percent between 1967 and 1976. Output from roundwood increased by 36 million cubic feet, while the output from plant byproducts increased 47 million cubic feet. Pulpwood was the leading roundwood product in the State throughout the period, followed by saw logs, and then veneer logs.

KEYWORDS: Roundwood products, plant byproducts, softwood products, hardwood products, unused plant residues, roundwood receipts.



The Forest Service, U.S. Department of Agriculture, is dedicated to the principle of multiple management of the Nation's forest resources for sustained yields of wood, water, forage, wildlife, and recreation. Through forestry research, cooperation with the States and private forest owners, and management of the National Forest and Grasslands, it strives - as directed by Congress - to provide increasingly greater service to a growing Nation.

USDA policy does not permit discrimination because of race, color, national origin, sex or religion. Any person who believes he or she has been discriminated against in any USDA-related activity should write immediately to the Secretary of Agriculture, Washington, D.C. 20250.

GOVT. DOCUMENTS
DEPOSITORY ITEM

OCT 18 1979

CLEMSON
LIBRARY



Forest Statistics
for the
Southern Coastal Plain
of
South Carolina,
1978



FOREWORD

This report highlights the principal findings of the fifth forest inventory of the Southern Coastal Plain of South Carolina. Fieldwork began in April 1978 and was completed in August 1978. Four previous inventories, completed in 1934, 1947, 1958, and 1968, provide statistics for measuring changes and trends over the past 44 years. The primary emphasis in this report is on the changes and trends since 1968. Previously reported figures have been adjusted to provide the best estimate of change.

Renewable Resources Evaluation (formerly Forest Survey) is authorized by the Forest and Rangeland Renewable Resources Research Act of 1978. The inventory is a continuing, nationwide undertaking by the regional experiment stations of the Forest Service, USDA. In Florida, Georgia, North Carolina, South Carolina, and Virginia, Renewable Resources Evaluation is administered through the Southeastern Forest Experiment Station, with headquarters in Asheville, North Carolina. The primary objective of the survey is to periodically inventory and evaluate the forest and related resources. These inventories provide information on the extent and condition of the forest lands, volume of timber, and rates of timber growth and removals. These evaluations help provide a basis for the formulation of forest policies and programs and for the orderly development and use of the resources.

The 12-county area covered by this report is one of three survey units in South Carolina. Similar reports, USDA Forest Service Resource Bulletins SE-45 and SE-47 have been issued for the Piedmont and Northern Coastal Plain. Another similar report containing many of the State totals is being released with this report. Two in-depth, analytical State reports, one dealing solely with timber and the second with all forest-related resources, should be available in early 1980.

The Southeastern Station gratefully acknowledges the cooperation of the South Carolina Commission of Forestry. Appreciation is also expressed for the excellent cooperation of other public agencies, forest industry, and private landowners in providing information and access to the sample locations.


JOE P. McCLURE
Project Leader

August 1979

Southeastern Forest Experiment Station
Asheville, North Carolina

Forest Statistics
for the
Southern Coastal Plain of
South Carolina,
1978

by

Raymond M. Sheffield, Resource Analyst

and

Joanne Hutchison, Statistical Assistant

Asheville, North Carolina

CONTENTS

	<u>Page</u>
HIGHLIGHTS	1
HOW THE INVENTORY IS MADE.....	3
RELIABILITY OF THE DATA	4
DEFINITIONS OF TERMS	6
COUNTY TABLES	
1. Area, by land class	13
2. Area of commercial forest land, by ownership class	14
3. Area of commercial forest land, by forest-type group	15
4. Area of commercial forest land, by stand-size class	16
5. Area of commercial forest land, by site class	16
6. Area of commercial forest land, by stocking classes of growing-stock trees	17
7. Volume of sawtimber and growing stock on commercial forest land, by species group	18
8. Net annual growth of sawtimber and growing stock on commercial forest land, by species group	19
9. Annual removals of sawtimber and growing stock on commercial forest land, by species group	20
UNIT TABLES	
10. Area of commercial forest land, by forest type and ownership class	21
11. Area of commercial forest land, by ownership and stocking classes of growing-stock trees	21
12. Volume of timber on commercial forest land, by class and species group	22
13. Number of growing-stock trees on commercial forest land, by species and diameter class	23
14. Volume of all live trees on commercial forest land, by species and diameter class	24
15. Volume of growing stock on commercial forest land, by species and diameter class	25
16. Volume of sawtimber on commercial forest land, by species and diameter class	26
17. Net annual growth and removals of growing stock on commercial forest land, by species	27
18. Net annual growth and removals of sawtimber on commercial forest land, by species	27
19. Mortality of growing stock and sawtimber on commercial forest land, by species	28
20. Volume of all live trees and growing stock on commercial forest land, by ownership class and species group	29
21. Volume of sawtimber on commercial forest land, by ownership class and species group	29
22. Net annual growth and removals of growing stock on commercial forest land, by ownership class and species group	30
23. Net annual growth and removals of sawtimber on commercial forest land, by ownership class and species group	30
24. Average net volume per acre of sawtimber, growing stock, and other live timber on commercial forest land, by ownership class, major forest type, and species group	31
25. Land area, by class, major forest type, and survey completion date	32
26. Volume of sawtimber, growing stock, and all live timber on commercial forest land, by species group, diameter class, and survey completion date	33

HIGHLIGHTS

Since 1968 in the Southern Coastal Plain of South Carolina—

area of commercial forest land has decreased by 41,000 acres, or by 1 percent. This decline reversed a long-term, upward trend in commercial forest area. Only 44,000 acres were added to the commercial forest-land base, while 85,000 acres were diverted to other land uses. About 47 percent of the diversions was to agricultural uses, 31 percent to urban development, and the remaining 22 percent to noncommercial forest and water. Commercial forests now occupy 3.2 million acres, or 62 percent of the total land area in this 12-county area.

area of commercial forest land owned by farmers has decreased by 430,000 acres, or by 26 percent. A large portion of this acreage moved to the miscellaneous private, corporate ownership class, which now controls nearly 11 percent of all commercial forest land. Miscellaneous private, individual holdings have remained about the same. Forest industry holdings increased by 20 percent to 546,000 acres, or 17 percent of all commercial forests. Acreage in public ownership has been stable.

about 49 percent of the land now classified as commercial forest land has been treated or significantly disturbed. Over 477,000 acres have been harvested, with 23 percent of these acres subsequently artificially regenerated. Altogether, 135,000 acres were artificially regenerated, with two-thirds of this activity taking place on lands owned or leased by forest industries. Stands originating from artificial planting and seeding now make up almost 18 percent of all commercial forests. Additional treatments included intermediate cuttings on 436,000 acres, and other treatments—mostly prescribed burning—on 388,000 acres. Disease, wildfires, insects, and other natural destructive agents caused significant damage on an additional 249,000 acres.

area of commercial forest land occupied by pine forest types has increased by 50,000 acres, or by 4 percent. Relatively undisturbed stands and those stands that were naturally disturbed accounted for 51 percent of the increase in pine types. Forestry practices, including harvesting, artificial regeneration, intermediate cutting, prescribed burning, and various other treatments accounted for 43 percent of the increase. Two-thirds of all harvested pine stands in this region have remained in pine types.

average basal area of all live trees 5.0 inches d.b.h. and larger has increased from 54 to 70 square feet per acre of commercial forest land. Over 30 percent of the commercial forests is fully stocked with growing-stock trees, compared with only 13 percent in 1968. Nearly 852,000 acres are nonstocked or poorly stocked with growing-stock trees. Rough and rotten trees make up 16 percent of the basal-area stocking. The number of softwood saplings has declined by 27 percent, while the number of hardwood saplings remained about the same. A 15 percent decline in the area occupied by sapling and seedling stands is consistent with these trends in number of saplings.

volume of softwood growing stock has increased from 1.6 to 2.3 billion cubic feet, or by 43 percent. Volume of loblolly pine, the predominant softwood species, increased by 52 percent. Slash pine volume increased by 143 percent, and this species has replaced longleaf pine as the region's second-most-abundant softwood species. Cypress volume declined by 5 percent. The softwood-volume increase occurred across the entire range of diameter classes. The current inventory of softwood growing stock includes 8.2 billion board feet of sawtimber, an increase of 46 percent.

volume of hardwood growing stock has increased from 1.8 to 2.2 billion cubic feet, or by 20 percent. Sweetgum and various red oak species accounted for two-thirds of the increase. Tupelo and blackgum, the second-most-abundant species group, increased in volume by only 3 percent. The current inventory of hardwood growing stock includes 6.7 billion board feet of sawtimber, up by 22 percent.

In 1977—

net annual growth of growing stock averaged nearly 81 cubic feet per acre of commercial forest land and totaled 260 million cubic feet. This high growth rate is attributed to the rapid development of many young pine stands, now 10 to 29 years old. Nearly 61 percent of such stands was established artificially. Softwood net growth exceeded removals by 80 percent, while hardwood net growth exceeded removals by 166 percent. Net growth exceeded removals on all ownerships. By ownership class, 21 percent of the net growth occurred on lands owned by forest industry, 72 percent on other private lands, and the remaining 7 percent on public forests. The net growth of all species included 966 million board feet of sawtimber.

removals of growing stock totaled 129 million cubic feet and included 487 million board feet of sawtimber. Softwood removals have increased by 39 percent since the previous survey, but hardwood removals have declined by 24 percent. Softwoods provide a disproportionate share of removals. They make up 51 percent of the inventory and two-thirds of the net growth but provide three-fourths of the removals. By ownership class, 29 percent of the volume removed was from forest industry lands, 69 percent from other private ownerships, and the remaining 2 percent from public lands.

mortality of growing stock totaled 23 million cubic feet and included 61 million board feet of sawtimber. The leading identifiable causes of death were suppression, disease, weather, and insects. Softwoods accounted for 53 percent of the mortality. Altogether, mortality reduced gross growth by 8 percent.

HOW THE INVENTORY IS MADE

The method of the inventory is a sampling procedure designed to provide reliable statistics primarily at the State and Survey Unit levels. Individual county statistics are presented so that any combination of counties may be added together until a total is large enough to meet the desired degree of reliability. Procedures were as follows:

1. Initial estimates of forest and nonforest areas were based on the classification of 17,433 sample clusters systematically spaced on the latest aerial photographs available. A subsample of 1,722 of the 16-point clusters was ground checked, and a linear regression was fitted to the data to develop the relationship between the photo and ground classification of the subsample. This procedure provides a means for adjusting the initial estimates of area for change in land use since date of photography and for photo misclassifications.

2. Estimates of timber volume and forest classifications were based on measurements recorded at 1,080 ground sample locations systematically distributed within the forest land. A 10-point cluster of plots, measured with a basal-area factor of 37.5 square feet per acre, was established on an acre at each of these sample locations. Trees less than 5 inches d.b.h. were tallied on a portion of the fixed-radius plots around the point centers.

3. Equations prepared from detailed measurements collected on standing trees in this Unit, and similar measurements taken throughout the Southeast, were used to compute the volume of individual tally trees. A mirror caliper and sectional aluminum poles were used to obtain the additional measurements on these standing trees required to construct volume equations.

4. Felled trees were measured at 25 active cutting operations. These data will be pooled with similar measurements taken in the State to supplement the standing-tree-volume study and to generate utilization factors for product and species groups that will be analyzed at the State level.

5. Estimates of growth, removals, and mortality were determined from the remeasurement of 1,145 permanent sample plots which were established in the fourth survey.

6. Ownership information was collected from correspondence, public records, and local contacts. In those counties where the sample missed a particular ownership class, temporary sample plots were added on these lands.

7. All field data were sent to Asheville for editing and were punched into cards and stored for machine computing, sorting, and tabulation. Final estimates were based on statistical summaries of the data.

RELIABILITY OF THE DATA

Statistical analysis of these data indicates the following sampling errors in terms of one standard error (two times out of three):

	<i>Percent</i>
Per million acres of commercial forest land	0.91
Per billion cubic feet of growing stock	5.65
Per billion cubic feet of net annual growth	1.39
Per billion cubic feet of annual removals	2.56

*SAMPLING ERRORS FOR COUNTY AND UNIT TOTALS,¹ IN TERMS OF
ONE STANDARD ERROR*

COUNTY	COMMERCIAL FOREST AREA	CUBIC-FOOT VOLUME OF GROWING STOCK		
		INVENTORY	GROWTH	REMOVALS
	- -	- - SAMPLING ERROR ²		
AIKEN	1.09	8.87	8.61	18.68
ALLENDALE	2.44	11.22	12.43	33.32
BAMBERG	2.44	9.27	9.36	24.45
BARNWELL	1.43	10.27	9.68	22.49
BEAUFORT	3.17	11.13	11.10	42.30
CALHOUN	3.01	13.24	13.41	36.49
COLLETON	1.06	6.47	6.32	18.19
DORCHESTER	1.48	7.13	8.10	22.17
HAMPTON	1.65	8.02	6.90	25.58
JASPER	1.66	8.70	10.11	24.23
LEXINGTON	2.24	11.25	11.11	23.04
ORANGEBURG	1.56	7.68	8.59	17.47
UNIT TOTAL	0.51	2.66	2.72	7.13

¹ SAMPLING ERROR OF BREAKDOWNS OF COUNTY AND UNIT TOTALS
MAY BE COMPUTED WITH THE FOLLOWING FORMULA:

$$F = \frac{(SE) \sqrt{(\text{SPECIFIED VOLUME OR AREA})}}{\sqrt{(\text{VOLUME OR AREA TOTAL IN QUESTION})}}$$

WHERE: F = SAMPLING ERROR OF THE VOLUME OR AREA TOTAL IN
QUESTION.

SE = SPECIFIED SAMPLING ERROR IN TABLE.

² BY RANDOM-SAMPLING FORMULA (IN PERCENT).

DEFINITIONS OF TERMS

Acceptable trees.--Growing-stock trees of commercial species that meet specified standards of size and quality, but not qualifying as desirable trees.

Basal area.--The area in square feet of the cross section at breast height of a single tree or of all the trees in a stand, usually expressed as square feet of basal area per acre.

Commercial forest land.--Forest land producing or capable of producing crops of industrial wood and not withdrawn from timber utilization.

Commercial species.--Tree species presently or prospectively suitable for industrial wood products.

Cropland.--Land under cultivation within the past 24 months, including orchards and land in soil-improving crops, but excluding land cultivated in developing improved pasture. Also includes idle farmland.

Desirable trees.--Growing-stock trees of commercial species having no serious defects in quality limiting present or prospective use for timber products, of relatively high vigor, and containing no pathogens that may result in death or serious deterioration before rotation age.

Diameter class.--A classification of trees based on diameter outside bark, measured at breast height ($4\frac{1}{2}$ feet above the ground). D.b.h. is the common abbreviation for "diameter at breast height." Two-inch-diameter classes are commonly used in Forest Survey, with the even inch the approximate midpoint for a class. For example, the 6-inch class includes trees 5.0 through 6.9 inches d.b.h., inclusive.

Farm.--Either a place operated as a unit of 10 or more acres from which the sale of agricultural products totaled \$50 or more annually, or a place operated as a unit of less than 10 acres from which the sale of agricultural products for the year amounted to at least \$250.

Farm operator.--A person who operates a farm, either doing the work himself or directly supervising the work.

Farmer-owned lands.--Lands owned by farm operators.

Forest industry lands.--Lands owned by companies or individuals operating wood-using plants.

Forest land.--Land at least 16.7 percent stocked by forest trees of any size, or formerly having had such tree cover, and not currently developed for nonforest use.

Forest type.--A classification of forest land based upon the species forming a plurality of live-tree stocking.

Longleaf-slash pine.--Forests in which longleaf or slash pine, singly or in combination, comprises a plurality of the stocking. (Common associates include oak, hickory, and gum.)

Loblolly-shortleaf pine.--Forests in which loblolly pine, shortleaf pine, or other southern yellow pines, except longleaf or slash pine, singly or in combination, comprise a plurality of the stocking. (Common associates include oak, hickory, and gum.)

Oak-pine.--Forests in which hardwoods (usually upland oaks) comprise a plurality of the stocking but in which pines comprise 25 to 50 percent of the stocking. (Common associates include gum, hickory, and yellow-poplar.)

Oak-hickory.--Forests in which upland oaks or hickory, singly or in combination, comprise a plurality of the stocking, except where pines comprise 25 to 50 percent, in which case the stand would be classified oak-pine. (Common associates include yellow-poplar, elm, maple, and black walnut.)

Oak-gum-cypress.--Bottomland forests in which tupelo, blackgum, sweetgum, oaks, or southern cypress, singly or in combination, comprises a plurality of the stocking, except where pines comprise 25 to 50 percent, in which case the stand would be classified oak-pine. (Common associates include cottonwood, willow, ash, elm, hackberry, and maple.)

Elm-ash-cottonwood.--Forests in which elm, ash, or cottonwood, singly or in combination, comprises a plurality of the stocking. (Common associates include willow, sycamore, beech, and maple.)

Gross growth.--Annual increase in net volume of trees in the absence of cutting and mortality.

Growing-stock trees.--Live trees of commercial species qualifying as desirable or acceptable trees.

Growing-stock volume.--Net volume in cubic feet of growing-stock trees 5.0 inches d.b.h. and over from a 1-foot stump to a minimum 4.0-inch top diameter outside bark of the central stem, or to the point where the central stem breaks into limbs. (Net volume in primary forks is included.)

Hardwoods.--Dicotyledonous trees, usually broad-leaved and deciduous.

Soft hardwoods.--Soft-textured hardwoods such as boxelder, red and silver maple, buckeye, hackberry, loblolly-bay, silverbell (in mountains), butternut, sweetgum, yellow-poplar, cucumbertree, magnolia, sweetbay, water tupelo, blackgum, sycamore, cottonwood, black cherry, willow, basswood, and elm.

Hard hardwoods.--Hard-textured hardwoods such as Florida and sugar maple, birch, hickory, dogwood, persimmon (forest grown), beech, ash, honeylocust, holly, black walnut, mulberry, all commercial oaks, and black locust.

Idle farmland.--Includes former croplands, orchards, improved pastures and farm sites not tended within the past 2 years, and presently less than 16.7 percent stocked with trees.

Improved pasture.--Land currently improved for grazing by cultivation, seeding, irrigation, or clearing of trees or brush.

Industrial wood.--All roundwood products except fuelwood.

Land area.--The area of dry land and land temporarily or partly covered by water such as marshes, swamps, and river flood plains (omitting tidal flats below mean high tide); streams, sloughs, estuaries, and canals less than 1/8 of a statute mile in width; and lakes, reservoirs, and ponds less than 40 acres in area.

Logging residues.--The unused portions of trees cut or killed by logging.

Miscellaneous Federal lands.--Federal lands other than National Forests, lands administered by the Bureau of Land Management, and Indian lands.

Miscellaneous private lands - corporate.--Lands owned by private corporations other than forest industry.

Miscellaneous private lands - individual.--Privately owned lands other than forest-industry, farmer-owned, or corporate lands.

Mortality.--Number or sound-wood volume of live trees dying from natural causes during a specified period.

National Forest land.--Federal lands which have been legally designated as National Forests or purchase units, and other lands under the administration of the Forest Service, including experimental areas and Bankhead-Jones Title III lands.

Net annual growth.--The increase in volume for a specific year.

Net volume.--Gross volume less deductions for rot, sweep, or other defect affecting use for timber products.

Noncommercial forest land.--(a) Unproductive forest land incapable of yielding crops of industrial wood because of adverse site conditions, and (b) productive-reserved forest land.

Noncommercial species.--Tree species of typically small size, poor form, or inferior quality which normally do not develop into trees suitable for industrial wood products.

Nonforest land.--Land that has never supported forests and lands formerly forested where timber management is precluded by development for other uses.

Nonstocked land.--Commercial forest land less than 16.7 percent stocked with growing-stock trees.

Other Federal lands.--Federal lands other than National Forests, including lands administered by the Bureau of Land Management, Bureau of Indian Affairs, and other Federal agencies.

Other public lands.--Publicly owned lands other than National Forests.

Overstocked areas.--Areas where growth of trees is significantly reduced by excessive numbers of trees.

Poletimber trees.--Growing-stock trees of commercial species at least 5.0 inches in d.b.h. but smaller than sawtimber size.

Productive-reserved forest land.--Forest land sufficiently productive to qualify as commercial forest land, but withdrawn from timber utilization through statute or administrative designation.

Rangeland.--Land on which the natural plant cover is composed principally of native grasses, forbs, or shrubs valuable for forage.

Rotten trees.--Live trees of commercial species that do not contain at least one 12-foot saw log, or two noncontiguous saw logs, each 8 feet or longer, now or prospectively, primarily because of rot or missing sections, and with less than one-third of the gross tree volume in sound material.

Rough trees.--(a) Live trees of commercial species that do not contain at least one 12-foot saw log, or two noncontiguous saw logs, each 8 feet or longer, now or prospectively, primarily because of roughness, poor form, splits, and cracks, and with less than one-third of the gross tree volume in sound material; and (b) all live trees of noncommercial species.

Salvable dead trees.--Standing or down dead trees that are considered merchantable by Forest Survey standards.

Saplings.--Live trees 1.0 to 5.0 inches in diameter at breast height.

Saw log.--A log meeting minimum standards of diameter, length, and defect, including logs at least 8 feet long, sound and straight, and with a minimum diameter inside bark for softwoods of 6 inches (8 inches for hardwoods).

Saw-log portion.--That part of the bole of sawtimber trees between the stump and the saw-log top.

Saw-log top.--The point on the bole of sawtimber trees above which a saw log cannot be produced. The minimum saw-log top is 7.0 inches d.o.b. for softwoods and 9.0 inches d.o.b. for hardwoods.

Sawtimber trees.--Live trees of commercial species containing at least a 12-foot saw log, or two noncontiguous saw logs, each 8 feet or longer, and with at least one-third of the gross board-foot volume between the 1-foot stump and minimum saw-log top being sound. Softwoods must be at least 9.0 inches and hardwoods at least 11.0 inches in diameter at breast height.

Sawtimber volume.--Net volume of the saw-log portion of live sawtimber in board-foot International 1/4-inch rule.

Seedlings.--Live trees less than 1.0 inch in diameter at breast height that are expected to survive and develop.

Site class.--A classification of forest land in terms of inherent capacity to grow crops of industrial wood based on fully stocked natural stands.

Class 1.--Sites capable of producing 165 or more cubic feet per acre annually.

Class 2.--Sites capable of producing 120 to 165 cubic feet per acre annually.

Class 3.--Sites capable of producing 85 to 120 cubic feet per acre annually.

Class 4.--Sites capable of producing 50 to 85 cubic feet per acre annually.

Class 5.--Sites incapable of producing 50 cubic feet per acre annually, but excluding unproductive sites.

Softwoods.--Coniferous trees, usually evergreen, having needles or scale-like leaves.

Pines.--Yellow pine species which include loblolly, longleaf, slash, shortleaf, pitch, Virginia, Table-Mountain, sand, and spruce pine.

Other softwoods.--White pine, hemlock, cypress, eastern redcedar, white-cedar, spruce, and fir.

Stand-size class.--A classification of forest land based on the size class of growing-stock trees on the area.

Sawtimber stands.--Stands at least 16.7 percent stocked with growing-stock trees, with half or more of total stocking in sawtimber or poletimber trees, and with sawtimber stocking at least equal to poletimber stocking.

Poletimber stands.--Stands at least 16.7 percent stocked with growing-stock trees of which half or more of this stocking is in poletimber and sawtimber trees, and with poletimber stocking exceeding that of sawtimber.

Sapling-seedling stands.--Stands at least 16.7 percent stocked with growing-stock trees of which more than half of the stocking is saplings and seedlings.

State, county, and municipal lands.--Lands owned by States, counties, and local public agencies or municipalities, or lands leased to these governmental units for 50 years or more.

Stocking.--The degree of occupancy of land by trees, measured by basal area or the number of trees in a stand and spacing in the stand, compared to a minimum standard, depending on tree size, to fully utilize the growth potential of the land. (See page 12.)

Timber removals.--The net volume of growing-stock trees removed from the inventory by harvesting; cultural operations, such as stand improvement; land clearing, or changes in land use.

Unproductive forest land.--Forest land incapable of producing 20 cubic feet per acre of industrial wood under natural conditions, because of adverse site conditions.

Upper-stem portion.--That part of the main stem or fork of sawtimber trees above the saw-log top to a minimum top diameter of 4.0 inches outside bark or to the point where the main stem or fork breaks into limbs.

Urban and other areas.--Areas within the legal boundaries of cities and towns; suburban areas developed for residential, industrial, or recreational purposes; school yards; cemeteries; roads; railroads; airports; beaches; powerlines and other rights-of-way; or other nonforest land not included in any other specified land use class.

STOCKING STANDARD

D.B.H. CLASS	MINIMUM NUMBER OF TREES PER ACRE FOR FULL STOCKING	MINIMUM BASAL AREA PER ACRE FOR FULL STOCKING	PERCENT STOCKING ASSIGNED EACH TALLY TREE ¹
SEEDLINGS	600	--	5.0
2	560	--	5.4
4	460	--	6.5
6	340	67	5.8
8	240	84	4.8
10	155	85	4.3
12	115	90	4.0
14	90	96	3.8
16	72	101	3.7
18	60	106	3.5
20	51	111	3.5

¹ TREES LESS THAN 5.0 INCHES D.B.H. WERE TALLIED ON A 10-POINT CLUSTER OF CIRCULAR, 1/300-ACRE PLOTS AT EACH SAMPLE LOCATION. TREES 5.0 INCHES D.B.H. AND LARGER WERE TALLIED ON A 10-POINT CLUSTER OF VARIABLE PLOTS USING A BASAL AREA FACTOR OF 37.5 AT EACH SAMPLE LOCATION.

OVERSTOCKED--OVER 130 PERCENT
 FULLY STOCKED--100-130 PERCENT
 MEDIUM STOCKED--60-99 PERCENT
 POORLY STOCKED--16.7-59 PERCENT
 NONSTOCKED--LESS THAN 16.7 PERCENT

CUBIC FEET OF WOOD PER AVERAGE CORD (EXCLUDING BARK)

D.B.H. CLASS	ALL SPECIES	PINE	OTHER SOFTWOOD	HARDWOOD
6	60.6	61.0	68.2	60.0
8	68.5	68.1	76.0	68.4
10	73.5	73.1	81.4	73.4
12	76.8	76.7	85.2	76.4
14	79.3	79.4	88.2	78.4
16	81.0	81.6	90.4	79.8
18	82.2	83.3	92.3	80.8
20	83.2	84.8	93.8	81.5
22	83.8	86.0	95.1	82.1
24+	84.7	87.6	98.6	83.2
AVERAGE	74.8	74.0	86.4	74.6

COUNTY TABLES

THE COUNTY TABLES ARE INTENDED FOR USE IN COMPILING FOREST RESOURCE ESTIMATES FOR GROUPS OF COUNTIES. BECAUSE THE SAMPLING PROCEDURE USED BY THE FOREST SURVEY WAS INTENDED PRIMARILY TO FURNISH INVENTORY DATA FOR THE SURVEY UNIT AS A WHOLE, INDIVIDUAL COUNTY ESTIMATES HAVE LIMITED AND VARIABLE ACCURACY. AS COUNTY TOTALS ARE BROKEN DOWN BY VARIOUS SUBDIVISIONS, THE POSSIBILITY OF ERROR INCREASES AND IS GREATEST FOR THE SMALLEST ITEMS. THE ORDER OF THIS INCREASE CAN BE COMPUTED WITH THE FORMULA ON PAGE 5.

TABLE 1. --AREA, BY LAND CLASS AND COUNTY, 1978

COUNTY	ALL LAND ¹	FOREST LAND				NONFOREST LAND ²
		TOTAL	COMMERCIAL FOREST	UNPRODUCTIVE FOREST	PRODUCTIVE-RESERVED	
				ACRES		
AIKEN	695,680	489,774	488,900	-	874	205,906
ALLENDALE	267,520	158,504	158,504	-	-	109,016
BAMBERG	252,800	148,795	148,440	-	355	104,005
BARNWELL	353,920	226,357	226,228	-	129	127,563
BEAUFORT	370,560	142,161	140,531	-	1,630	228,399
CALHOUN	241,280	130,243	130,243	-	-	111,037
COLLETON	671,360	476,667	476,667	-	-	194,693
DORCHESTER	364,160	271,644	271,334	-	310	92,516
HAMPTON	359,680	245,589	245,589	-	-	114,091
JASPER	417,280	313,206	299,706	-	13,500	104,074
LEXINGTON	458,880	267,942	267,942	-	-	190,938
ORANGEBURG	707,840	369,503	369,300	-	203	338,337
TOTAL	5,160,960	3,240,385	3,223,384	-	17,001	1,920,575

¹FROM U. S. BUREAU OF THE CENSUS, LAND AND WATER AREA OF THE UNITED STATES, 1970.

²INCLUDES 65,011 ACRES OF WATER ACCORDING TO SURVEY STANDARDS OF AREA CLASSIFICATION, BUT DEFINED BY THE BUREAU OF THE CENSUS AS LAND.

TABLE 2. -- AREA OF COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND COUNTY, 1978

COUNTY	ALL OWNERSHIPS	OWNERSHIP CLASS						FARMER	MISCELLANEOUS PRIVATE	
		NATIONAL FOREST	MISCELLANEOUS FEDERAL	STATE	COUNTY AND MUNICIPAL	FOREST INDUSTRY ¹	MISCELLANEOUS PRIVATE			
							CORPORATE		INDIVIDUAL	
ACRES										
AIKEN	488,900	6,021	61,776	1,413	843	46,825	157,756	53,646	160,620	
ALLENDALE	158,504	--	3,908	1	68	48,112	66,808	20,556	19,051	
BAMBERG	148,440	--	--	10	130	20,529	79,095	6,084	42,592	
BARNWELL	226,228	--	109,076	716	244	20,610	48,706	11,461	35,415	
BEAUFORT	140,531	--	4,376	1,502	567	9,478	14,835	26,702	83,071	
CALHOUN	130,243	--	--	1,595	34	5,009	80,235	3,251	40,118	
COLLETON	476,667	--	--	1,447	690	115,554	217,192	24,133	117,651	
DORCHESTER	271,334	--	--	1,714	50	82,160	117,478	27,974	41,958	
HAMPTON	245,589	--	--	5,305	148	58,755	103,197	18,766	59,418	
JASPER	299,706	--	--	5	134	100,059	60,395	101,478	37,635	
LEXINGTON	267,942	--	--	314	285	2,511	122,726	41,986	100,120	
ORANGEBURG	369,300	--	1,175	6,249	395	36,599	187,424	10,391	127,067	
TOTAL	3,223,384	6,021	180,311	20,271	3,588	546,201	1,255,848	346,428	864,716	

¹NOT INCLUDING 9,563 ACRES OF FARMER-OWNED AND MISCELLANEOUS PRIVATE LANDS LEASED TO FOREST INDUSTRY.

TABLE 3. --AREA OF COMMERCIAL FOREST LAND, BY FOREST-TYPE GROUP AND COUNTY, 1978

COUNTY	ALL TYPE GROUPS	FOREST-TYPE GROUP									
		WHITE PINE-HEMLOCK	SPRUCE-FIR	LONGLEAF-SLASH	LOBLOLLY-SHORTLEAF	OAK-PINE	OAK-HICKORY	OAK-GUM-CYPRESS	ELM-ASH-COTTONWOOD	MAPLE-BEECH-BIRCH	
		ACRES									
AIKEN	488,900	--	--	142,556	117,211	64,678	107,616	50,887	5,952	--	
ALLENDALE	158,504	--	--	22,356	63,667	7,710	26,562	18,490	19,719	--	
BAMBERG	148,440	--	--	21,369	30,508	18,254	29,432	48,877	--	--	
BARNWELL	226,228	--	--	53,247	60,766	30,665	36,120	45,430	--	--	
BEAUFORT	140,531	--	--	24,641	26,103	24,303	28,901	36,583	--	--	
CALHOUN	130,243	--	--	21,402	40,152	12,344	27,774	25,485	3,086	--	
COLLETON	476,667	--	--	59,998	155,837	46,756	56,760	157,316	--	--	
DORCHESTER	271,334	--	--	28,006	49,410	53,326	42,222	98,370	--	--	
HAMPTON	245,589	--	--	54,209	42,602	18,573	24,636	105,569	--	--	
JASPER	299,706	--	--	64,417	80,407	20,913	28,136	99,123	6,710	--	
LEXINGTON	267,942	--	--	45,532	70,330	45,215	87,202	13,203	6,460	--	
ORANGEBURG	369,300	--	--	18,698	65,265	57,990	83,717	143,630	--	--	
TOTAL	3,223,384	--	--	556,431	802,258	400,727	579,078	842,963	41,927	--	

TABLE 4. -- AREA OF COMMERCIAL FOREST LAND, BY STAND-SIZE CLASS AND COUNTY, 1978

COUNTY	ALL STANDS	STAND-SIZE CLASS			NONSTOCKED AREAS
		SAWTIMBER	POLETIMBER	SAPLING-SEEDLING	
- - - - - ACRES - - - - -					
AIKEN	488,900	182,697	104,502	151,527	50,174
ALLENDALE	158,504	87,998	16,482	51,455	2,569
BAMBERG	148,440	62,981	58,939	26,520	---
BARNWELL	226,228	109,160	64,196	44,413	8,459
BEAUFORT	140,531	90,670	32,039	17,822	---
CALHOUN	130,243	62,552	33,745	30,860	3,086
COLLETON	476,667	232,568	118,662	112,027	13,410
DORCHESTER	271,334	158,966	53,469	58,899	--
HAMPTON	245,589	125,899	67,475	52,215	--
JASPER	299,706	144,825	73,182	64,277	17,422
LEXINGTON	267,942	109,090	58,446	58,137	42,269
ORANGEBURG	369,300	147,474	91,711	125,764	4,351
TOTAL	3,223,384	1,514,880	772,848	793,916	141,740

TABLE 5. -- AREA OF COMMERCIAL FOREST LAND, BY SITE CLASS AND COUNTY, 1978

COUNTY	ALL CLASSES	SITE CLASS				
		1	2	3	4	5
- - - - - ACRES - - - - -						
AIKEN	488,900	--	--	48,749	224,981	215,170
ALLENDALE	158,504	--	--	23,157	124,201	11,146
BAMBERG	148,440	--	--	33,538	92,543	22,359
BARNWELL	226,228	--	3,582	54,446	137,535	30,665
BEAUFORT	140,531	--	12,658	60,939	51,309	15,625
CALHOUN	130,243	--	3,086	40,916	56,544	29,697
COLLETON	476,667	6,033	17,544	136,034	280,631	36,425
DORCHESTER	271,334	--	15,737	112,500	120,649	22,448
HAMPTON	245,589	3,127	3,127	43,212	159,925	36,198
JASPER	299,706	4,003	14,716	100,728	148,115	32,144
LEXINGTON	267,942	--	--	6,460	135,207	126,275
ORANGEBURG	369,300	--	--	137,954	205,935	25,411
TOTAL	3,223,384	13,163	70,450	798,633	1,737,575	603,563

TABLE 6. -- AREA OF COMMERCIAL FOREST LAND, BY STOCKING CLASSES OF GROWING-STOCK TREES, BY COUNTY, 1978

COUNTY	ALL CLASSES	STOCKING PERCENTAGE ¹				
		OVER 130	100-130	60-99	16.7-59	LESS THAN 16.7
- - - - - ACRES - - - - -						
AIKEN	488,900	2,942	59,707	199,812	176,265	50,174
ALLENDALE	158,504	1,066	66,576	60,864	27,429	2,569
BAMBERG	148,440	5,095	30,627	85,329	27,389	—
BARNWELL	226,228	6,696	56,687	86,748	67,638	8,459
BEAUFORT	140,531	7,512	30,574	51,217	51,228	—
CALHOUN	130,243	—	44,167	52,130	30,860	3,086
COLLETON	476,667	23,575	171,246	209,775	58,661	13,410
DORCHESTER	271,334	5,594	94,467	131,896	39,377	—
HAMPTON	245,589	15,066	109,169	102,589	18,765	—
JASPER	299,706	4,002	98,612	137,462	42,208	17,422
LEXINGTON	267,942	3,229	31,579	93,657	97,208	42,269
ORANGEBURG	369,300	15,522	97,174	179,162	73,091	4,351
TOTAL	3,223,384	90,299	890,585	1,390,641	710,119	141,740

¹ SEE STOCKING STANDARDS ON PAGE 12.

TABLE 7. -- VOLUME OF SAWTIMBER AND GROWING STOCK ON COMMERCIAL FOREST LAND, BY SPECIES GROUP AND COUNTY, 1978

COUNTY	SAWTIMBER				GROWING STOCK					
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
	-- -- -- -- THOUSAND BOARD FEET -- -- -- --				-- -- -- -- THOUSAND CUBIC FEET -- -- -- --					
AIKEN	1,343,079	866,739	12,763	318,101	145,476	412,087	252,355	3,114	98,209	58,409
ALLENDALE	870,083	454,096	40,969	194,573	180,445	248,762	127,794	10,417	57,954	52,597
BAMBERG	673,813	300,586	68,892	217,015	87,320	218,776	96,358	17,112	68,215	37,091
BARNWELL	828,715	462,714	29,845	208,119	128,037	274,695	134,917	10,288	85,672	43,818
BEAUFORT	874,086	497,020	5,055	248,052	123,959	228,677	121,992	1,121	67,475	38,089
CALHOUN	724,599	405,861	9,645	221,220	87,873	202,718	104,399	2,499	66,806	29,014
COLLETON	2,363,972	1,248,851	101,949	545,398	467,774	731,037	356,163	26,606	204,373	143,895
DORCHESTER	1,585,779	676,871	163,565	378,975	366,368	463,973	180,130	37,834	137,363	108,646
HAMPTON	1,581,062	523,263	123,167	450,505	484,127	482,891	161,868	29,986	156,235	134,802
JASPER	1,452,082	613,665	147,807	299,750	390,860	424,890	187,269	33,960	100,120	103,541
LEXINGTON	947,213	712,566	4,349	102,020	128,278	263,191	183,726	1,734	34,244	43,487
ORANGEBURG	1,623,777	619,783	112,154	546,285	345,555	546,952	179,229	31,173	209,738	126,812
TOTAL	14,868,260	7,382,015	820,160	3,730,013	2,936,072	4,498,649	2,086,200	205,844	1,286,404	920,201

* FACTORS FOR CONVERTING TO CORDS ARE SHOWN ON PAGE 12.

TABLE 8. --NET ANNUAL GROWTH OF SAWTIMBER AND GROWING STOCK ON COMMERCIAL FOREST LAND, BY SPECIES GROUP AND COUNTY, 1977

COUNTY	SAWTIMBER				GROWING STOCK					
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
	- - - -	- - - -	- THOUSAND BOARD FEET	- - - -	- - - -	- - - -	- - - -	- THOUSAND CUBIC FEET	- - - -	- - - -
AIKEN	94,982	75,716	322	11,284	7,660	25,659	19,920	64	3,085	2,590
ALLENDALE	60,355	42,260	816	7,583	9,696	14,646	10,016	185	2,580	1,865
BAMBERG	49,190	31,090	1,564	10,729	5,807	12,094	7,581	327	2,495	1,691
BARNWELL	61,253	39,669	1,023	13,235	7,326	16,287	10,486	212	3,631	1,958
BEAUFORT	47,088	33,109	128	8,461	5,390	12,409	8,377	29	1,647	1,158
CALHOUN	46,075	30,595	264	12,089	3,127	11,721	8,268	50	2,356	1,993
COLLETON	159,887	106,064	2,700	22,806	28,317	48,371	33,403	657	8,374	5,937
DORCHESTER	96,211	58,916	3,714	16,673	16,908	23,499	13,196	900	4,888	4,515
HAMPTON	93,990	48,168	3,417	22,556	19,849	24,287	12,843	626	5,433	5,385
JASPER	87,548	53,424	3,728	11,493	18,903	26,102	17,275	664	4,271	3,892
LEXINGTON	62,714	50,916	153	6,673	4,972	15,600	12,522	46	1,561	1,471
ORANGEBURG	106,476	55,069	2,748	28,419	20,243	29,339	14,586	617	7,412	6,624
TOTAL	965,769	624,993	20,577	172,001	148,198	260,014	168,573	4,377	48,496	38,568

TABLE 10.--AREA OF COMMERCIAL FOREST LAND, BY FOREST TYPE AND OWNERSHIP CLASS, 1978

FOREST TYPE	ALL OWNERSHIPS	OWNERSHIP CLASS				
		NATIONAL FOREST	OTHER PUBLIC	FOREST INDUSTRY	FARMER	MISC. PRIVATE
----- ACRES -----						
SOFTWOOD TYPES:						
WHITE PINE-HEMLOCK	--	--	--	--	--	--
SPRUCE-FIR	--	--	--	--	--	--
LONGLEAF PINE	241,414	--	34,149	--	81,069	126,196
SLASH PINE	315,017	--	22,550	109,644	62,530	120,293
LOBLOLLY PINE	685,959	3,011	55,431	161,391	267,908	198,218
SHORTLEAF PINE	24,504	--	34	2,459	3,229	18,782
VIRGINIA PINE	--	--	--	--	--	--
SAND PINE	--	--	--	--	--	--
EASTERN REDCEDAR	--	--	--	--	--	--
POND PINE	88,612	--	148	14,417	33,514	40,533
SPRUCE PINE	3,183	--	724	2,459	--	--
PITCH PINE	--	--	--	--	--	--
TABLE-MOUNTAIN PINE	--	--	--	--	--	--
TOTAL	1,358,689	3,011	113,036	290,370	448,250	504,022
HARDWOOD TYPES:						
OAK-PINE	400,727	--	21,619	46,127	156,445	176,536
OAK-HICKORY	422,274	--	25,650	39,614	207,078	149,932
CHESTNUT OAK	--	--	--	--	--	--
SOUTHERN SCRUB OAK	156,804	--	9,804	5,152	57,638	84,210
OAK-GUM-CYPRESS	842,963	--	31,119	158,066	369,182	284,596
ELM-ASH-COTTONWOOD	41,927	3,010	2,942	6,872	17,255	11,848
MAPLE-BEECH-BIRCH	--	--	--	--	--	--
TOTAL	1,864,695	3,010	91,134	255,831	807,598	707,122
ALL TYPES	3,223,384	6,021	204,170	546,201	1,255,848	1,211,144

TABLE 11.--AREA OF COMMERCIAL FOREST LAND, BY OWNERSHIP AND STOCKING CLASSES OF GROWING-STOCK TREES, 1978

OWNERSHIP CLASSES	ALL CLASSES	STOCKING PERCENTAGE ¹				
		OVER 130	100-130	60-99	16.7-59	LESS THAN 16.7
ACRES						
NATIONAL FOREST	6,021	--	3,011	3,010	--	--
OTHER PUBLIC	204,170	5,739	58,135	96,962	34,867	8,467
FOREST INDUSTRY	546,201	21,720	229,073	221,987	62,043	11,378
FARMER	1,255,848	21,438	290,164	590,825	304,572	48,849
MISC. PRIVATE	1,211,144	41,402	310,202	477,857	308,637	73,046
ALL OWNERSHIPS	3,223,384	90,299	890,585	1,390,641	710,119	141,740

¹ SEE STOCKING STANDARDS ON PAGE 12.

TABLE 12. VOLUME OF TIMBER ON COMMERCIAL FOREST LAND, BY CLASS AND SPECIES GROUP, 1978

CLASS OF TIMBER	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
THOUSAND CUBIC FEET					
SAWTIMBER TREES:					
SAW-LOG PORTION	2,914,047	1,435,772	169,400	757,905	550,970
UPPER-STEM PORTION	241,759	80,355	9,481	87,971	63,952
TOTAL	3,155,806	1,516,127	178,881	845,876	614,922
POLETIMBER TREES	1,342,843	570,073	26,963	440,528	305,279
ALL GROWING-STOCK TREES	4,498,649	2,086,200	205,844	1,286,404	920,201
ROUGH TREES:					
SAWTIMBER-SIZE TREES	226,326	21,703	3,126	107,989	93,508
POLETIMBER-SIZE TREES	298,746	32,526	2,731	142,308	121,181
TOTAL	525,072	54,229	5,857	250,297	214,689
ROTTEN TREES:					
SAWTIMBER-SIZE TREES	67,310	615	2,159	44,408	20,128
POLETIMBER-SIZE TREES	9,362	--	243	5,694	3,425
TOTAL	76,672	615	2,402	50,102	23,553
SALVABLE DEAD TREES:					
SAWTIMBER-SIZE TREES	462	456	6	--	--
POLETIMBER-SIZE TREES	466	432	34	--	--
TOTAL	928	888	40	--	--
TOTAL, ALL TIMBER	5,101,321	2,141,932	214,143	1,586,803	1,158,443

TABLE 13. --NUMBER OF GROWING-STOCK TREES ON COMMERCIAL FOREST LAND, BY SPECIES AND DIAMETER CLASS, 1978

SPECIES	ALL CLASSES	DIAMETER CLASS (INCHES AT BREAST HEIGHT)										21.0-28.9	29.0 AND LARGER
		5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9				
THOUSAND TREES													
SOFTWOOD:													
LONGLEAF PINE	27,821	9,140	7,048	5,057	3,426	1,972	802	274	86	16			
SLASH PINE	58,848	26,804	18,533	8,449	3,343	1,963	506	192	30	28			
SHORTLEAF PINE	4,304	1,561	646	718	824	314	170	50	6	15			
LOBLOLLY PINE	93,734	35,781	22,616	14,845	8,869	5,530	2,998	1,588	827	666		17	
POND PINE	16,181	5,495	3,828	2,718	2,000	1,148	466	282	165	79			
VIRGINIA PINE													
PITCH PINE													
TABLE-MOUNTAIN PINE													
SPRUCE PINE	1,241	176	221	282	151	130	111	58	66	46			
SAND PINE													
EASTERN WHITE PINE													
EASTERN HEMLOCK													
SPRUCE AND FIR													
BALDCYPRESS	5,611	974	984	1,066	678	795	437	311	176	177		13	
POND CYPRESS	5,750	1,411	1,550	1,179	610	448	296	119	56	74		7	
CEDARS	310	158	68	52	32								
TOTAL SOFTWOODS	213,800	81,500	55,491	34,366	19,933	11,300	5,786	2,874	1,412	1,101		37	
HARDWOOD:													
SELECT WHITE OAKS	6,499	2,587	1,584	757	506	404	275	195	71	106		14	
SELECT RED OAKS	1,455	311	220	218	156	256	146	92	5	49		12	
CHESTNUT OAK													
OTHER WHITE OAKS	4,186	1,727	721	660	372	223	178	87	68	130		20	
OTHER RED OAKS	42,362	17,057	10,282	5,538	3,484	2,133	1,707	835	539	675		112	
HICKORY	7,399	3,264	1,750	858	445	421	266	181	89	95		30	
YELLOW BIRCH													
HARD MAPLE	4									4			
SOFT MAPLE	12,516	6,192	2,342	1,674	886	732	321	184	94	91			
BEECH	92	52				22			5	13			
SWEETGUM	38,395	16,248	8,811	5,529	3,221	2,012	1,265	646	361	290		12	
TUPELO AND BLACKGUM	35,068	9,483	7,677	5,937	3,106	3,132	1,827	977	444	457		28	
ASH	5,512	1,631	1,267	1,097	564	435	224	130	72	86		6	
COTTONWOOD	5,347	62	110	95	54			13	5	8			
BASSWOOD													
YELLOW-POPLAR	6,053	1,831	1,310	1,114	630	377	296	264	99	115		17	
BAY AND MAGNOLIA	601	251	106	108	69	21	25		5	12		4	
BLACK CHERRY	1,251	742	448	47	14								
BLACK WALNUT	5								5				
SYCAMORE	138		32		26	35	10	13		21		1	
BLACK LOCUST													
ELM	2,936	943	695	444	312	225	79	98	81	52		7	
OTHER EASTERN HARDWOODS	3,005	1,266	606	420	310	165	116	50	26	44		2	
TOTAL HARDWOODS	157,834	63,647	37,961	24,496	16,155	10,593	6,735	3,765	1,969	2,248		265	
ALL SPECIES	381,634	145,147	93,452	58,862	36,088	21,893	12,521	6,639	3,381	3,349		302	

TABLE 14.—VOLUME OF ALL LIVE TREES ON COMMERCIAL FOREST LAND, BY SPECIES AND DIAMETER CLASS, 1978

SPECIES	ALL CLASSES	DIAMETER CLASS (INCHES AT BREAST HEIGHT)										29.0 AND LARGER
		5.0 6.9	7.0 8.9	9.0 10.9	11.0 12.9	13.0 14.9	15.0 16.9	17.0 18.9	19.0 20.9	21.0- 28.9		
THOUSAND CUBIC FEET												
SOFTWOOD:												
LONGLEAF PINE	308,201	28,312	48,724	62,562	65,518	55,401	28,696	12,944	4,998	1,046	--	--
SLASH PINE	445,711	81,837	132,099	101,585	66,082	29,190	21,001	9,723	2,203	2,991	--	--
SHORTLEAF PINE	59,284	4,847	5,141	10,287	17,538	9,803	6,947	3,612	1,385	1,224	--	--
LOBLOLLY PINE	1,109,704	100,453	156,993	187,221	173,604	158,895	121,931	84,175	56,963	66,011	2,858	--
POND PINE	188,679	14,213	26,171	32,810	38,422	30,365	16,899	13,163	9,850	6,790	--	--
VIRGINIA PINE	--	--	--	--	--	--	--	--	--	--	--	--
PITCH PINE	--	--	--	--	--	--	--	--	--	--	--	--
TABLE-MOUNTAIN PINE	--	--	--	--	--	--	--	--	--	--	--	--
SPRUCE PINE	28,465	1,150	2,659	3,588	2,954	3,064	3,841	2,866	4,177	4,166	--	--
SAND PINE	--	--	--	--	--	--	--	--	--	--	--	--
EASTERN WHITE PINE	--	--	--	--	--	--	--	--	--	--	--	--
EASTERN HEMLOCK	--	--	--	--	--	--	--	--	--	--	--	--
SPRUCE AND FIR	--	--	--	--	--	--	--	--	--	--	--	--
BALDCYPRESS	136,299	4,310	9,054	15,842	15,752	24,302	17,358	15,398	11,638	17,163	5,482	--
PONDYCPRESS	75,923	5,710	10,033	13,721	10,851	10,657	10,344	5,194	2,516	5,329	1,568	--
CEDARS	1,881	527	303	534	517	--	--	--	--	--	--	--
TOTAL SOFTWOODS	2,355,147	241,359	391,177	428,150	391,338	321,677	227,013	147,075	92,730	104,720	9,908	--
HARDWOOD:												
SELECT WHITE OAKS	93,286	9,139	11,250	9,173	11,363	11,745	10,769	9,129	5,917	11,185	3,616	--
SELECT RED OAKS	34,393	1,123	1,875	3,290	3,060	7,039	5,765	4,773	260	5,079	2,129	--
CHESTNUT OAK	--	--	--	--	--	--	--	--	--	--	--	--
OTHER WHITE OAKS	107,409	6,829	7,105	9,934	10,460	9,384	9,566	10,189	9,348	23,009	11,585	--
OTHER RED OAKS	617,452	64,865	81,590	78,925	77,790	63,331	68,037	45,228	37,111	72,366	28,209	--
HICKORY	101,041	9,681	11,357	10,572	10,438	12,814	10,645	9,270	6,490	11,816	7,958	--
YELLOW BIRCH	--	--	--	--	--	--	--	--	--	--	--	--
HARD MAPLE	602	--	--	--	291	--	--	--	--	311	--	--
SOFT MAPLE	203,498	34,439	28,529	28,173	26,632	28,904	18,126	14,037	10,601	12,928	1,129	--
BEECH	5,527	807	998	716	223	809	--	--	330	1,644	--	--
SWEETGUM	504,893	52,728	67,746	83,129	76,903	65,898	57,052	37,976	27,152	32,635	3,674	--
TOUPELO AND BLACKGUM	644,164	49,309	72,472	95,518	116,993	97,457	76,497	54,450	29,419	45,648	6,401	--
ASH	103,003	7,956	12,662	17,834	15,378	14,480	9,946	8,136	5,009	9,561	2,041	--
COTTONWOOD	5,537	366	697	1,677	946	232	--	677	208	734	--	--
BASSWOOD	--	--	--	--	--	--	--	--	--	--	--	--
YELLOW-POPLAR	109,912	6,684	10,208	15,670	14,132	11,890	12,052	14,865	7,077	13,417	3,917	--
BAY AND MAGNOLIA	12,523	2,431	1,130	1,597	1,604	692	1,184	296	333	1,168	2,088	--
BLACK CHERRY	9,795	4,229	4,299	713	232	--	322	--	--	--	--	--
BLACK WALNUT	988	202	192	--	--	--	--	276	318	--	--	--
SYCAMORE	6,528	181	209	--	892	1,429	556	715	--	2,119	427	--
BLACK LOCUST	--	--	--	--	--	--	--	--	--	--	--	--
ELM	59,524	3,956	7,268	7,365	8,430	8,555	3,855	5,527	5,882	7,104	1,572	--
OTHER EASTERN HARDWOODS	125,171	37,034	23,693	18,890	14,135	9,674	6,312	4,240	2,385	6,400	2,408	--
TOTAL HARDWOODS	2,745,246	291,959	343,280	383,176	389,902	344,343	290,684	219,784	147,840	257,124	77,154	--
ALL SPECIES	5,100,393	533,318	734,457	811,326	781,240	666,020	517,697	366,859	240,570	361,844	87,062	--

TABLE 15. -- VOLUME OF GROWING STOCK ON COMMERCIAL FOREST LAND, BY SPECIES AND DIAMETER CLASS, 1978

SPECIES	ALL CLASSES	DIAMETER CLASS (INCHES AT BREAST HEIGHT)										29.0 AND LARGER
		5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9		
THOUSAND CUBIC FEET												
SOFTWOOD:												
LONGLEAF PINE	305,603	27,840	47,555	62,014	65,336	55,174	28,696	12,944	4,998	1,046	--	
SLASH PINE	436,422	78,126	127,508	100,567	65,503	28,800	21,001	9,723	2,203	2,991	--	
SHORTLEAF PINE	55,541	4,031	4,647	9,124	16,726	9,610	6,782	3,012	385	1,224	--	
LOBLOLLY PINE	1,080,348	92,679	148,444	181,530	171,040	157,428	120,237	84,315	56,371	65,446	2,858	
POND PINE	181,758	12,976	24,181	31,178	37,403	29,652	16,565	13,163	9,850	6,790	--	
VIRGINIA PINE	--	--	--	--	--	--	--	--	--	--	--	
PITCH PINE	--	--	--	--	--	--	--	--	--	--	--	
TABLE-MOUNTAIN PINE	--	--	--	--	--	--	--	--	--	--	--	
SPRUCE PINE	26,528	430	1,656	3,374	2,954	3,064	3,841	2,866	4,177	4,166	--	
SAND PINE	--	--	--	--	--	--	--	--	--	--	--	
EASTERN WHITE PINE	--	--	--	--	--	--	--	--	--	--	--	
EASTERN HEMLOCK	--	--	--	--	--	--	--	--	--	--	--	
SPRUCE AND FIR	--	--	--	--	--	--	--	--	--	--	--	
BALDOCYPRESS	131,495	3,987	8,123	15,238	14,995	24,143	16,549	15,222	11,638	16,988	4,612	
PONDYCYPRESS	72,468	4,565	9,458	13,580	10,479	10,497	9,474	5,002	2,516	5,329	1,568	
CEDARS	1,881	527	303	534	517	--	--	--	--	--	--	
TOTAL SOFTWOODS	2,292,044	225,161	371,875	417,139	384,953	318,368	223,145	146,247	92,138	103,980	9,038	
HARDWOOD:												
SELECT WHITE OAKS	87,407	8,085	10,155	8,802	9,991	11,261	10,424	8,993	5,195	10,885	3,616	
SELECT RED OAKS	33,290	824	1,826	3,055	2,778	7,039	5,765	4,773	260	4,841	2,129	
CHESTNUT OAK	--	--	--	--	--	--	--	--	--	--	--	
OTHER WHITE OAKS	57,872	4,426	4,173	6,933	6,173	5,330	5,956	4,217	4,206	12,127	4,331	
OTHER RED OAKS	544,314	54,874	69,455	67,071	67,055	58,429	64,436	40,959	35,469	64,314	22,252	
HICKORY	90,349	7,881	9,773	9,220	8,140	11,520	10,341	9,211	6,107	10,451	7,705	
YELLOW BIRCH	--	--	--	--	--	--	--	--	--	--	--	
HARD MAPLE	311	--	--	--	--	--	--	--	--	311	--	
SOFT MAPLE	132,164	20,465	17,303	20,981	16,788	20,932	12,585	9,628	6,008	7,474	--	
BEECH	2,755	182	--	--	--	599	--	--	330	1,644	--	
SWEETGUM	451,223	40,661	57,921	72,731	67,596	61,920	54,686	35,757	26,187	30,090	3,674	
TUPELO AND BLACKGUM	506,334	28,362	51,304	72,664	95,625	83,108	65,728	45,819	24,812	35,085	3,927	
ASH	87,089	5,576	9,330	15,184	12,297	13,229	9,402	7,047	4,841	8,985	1,198	
COTTONWOOD	4,800	165	697	1,373	946	--	--	677	208	734	--	
BASSWOOD	--	--	--	--	--	--	--	--	--	--	--	
YELLOW-POPLAR	102,182	5,691	8,843	15,092	13,042	11,308	12,052	14,343	6,865	11,200	3,746	
BAY AND MAGNOLIA	2,385	713	818	1,144	1,415	506	867	--	333	899	700	
BLACK CHERRY	5,744	1,985	2,996	531	232	--	--	--	--	--	--	
BLACK WALNUT	318	--	--	--	--	--	--	--	318	--	--	
SYCAMORE	5,508	--	209	--	572	1,098	368	715	--	2,119	427	
BLACK LOCUST	--	--	--	--	--	--	--	--	--	--	--	
ELM	48,572	2,312	5,312	5,914	6,547	6,764	3,491	5,230	5,543	5,887	1,572	
OTHER EASTERN HARDWOODS	38,568	3,783	3,899	5,223	6,303	4,400	4,744	2,439	1,476	6,181	540	
TOTAL HARDWOODS	2,206,605	185,975	253,914	305,918	315,500	297,443	260,845	189,808	128,158	213,227	55,817	
ALL SPECIES	4,498,649	411,136	625,789	723,057	700,453	615,811	483,990	336,055	220,296	317,207	64,855	

TABLE 17. --NET ANNUAL GROWTH AND REMOVALS OF GROWING STOCK ON COMMERCIAL FOREST LAND, BY SPECIES, 1977

SPECIES	NET ANNUAL GROWTH	ANNUAL TIMBER REMOVALS
- - THOUSAND CUBIC FEET - -		
SOFTWOOD:		
YELLOW PINES	168,573	94,677
EASTERN WHITE PINE	--	--
SPRUCE AND FIR	--	--
CYPRESS	4,329	1,517
OTHER EASTERN SOFTWOODS	48	--
TOTAL SOFTWOODS	172,950	96,194
HARDWOOD:		
SELECT WHITE AND RED OAKS	4,328	3,004
OTHER WHITE AND RED OAKS	29,243	9,271
HICKORY	2,500	1,429
YELLOW BIRCH	--	--
HARD MAPLE	13	--
SWEETGUM	19,978	8,649
ASH, WALNUT, AND BLACK CHERRY	2,741	659
YELLOW-POPLAR	5,983	1,189
TUPELO AND BLACKGUM	12,716	5,748
BAY AND MAGNOLIA	148	--
OTHER EASTERN HARDWOODS	9,414	2,814
TOTAL HARDWOODS	87,064	32,763
ALL SPECIES	260,014	128,957

TABLE 18. --NET ANNUAL GROWTH AND REMOVALS OF SAWTIMBER ON COMMERCIAL FOREST LAND, BY SPECIES, 1977

SPECIES	NET ANNUAL GROWTH	ANNUAL TIMBER REMOVALS
- - - THOUSAND BOARD FEET - - -		
SOFTWOOD:		
YELLOW PINES	624,993	358,153
EASTERN WHITE PINE	--	--
SPRUCE AND FIR	--	--
CYPRESS	20,424	7,516
OTHER EASTERN SOFTWOODS	153	--
TOTAL SOFTWOODS	645,570	365,669
HARDWOOD:		
SELECT WHITE AND RED OAKS	19,526	13,932
OTHER WHITE AND RED OAKS	108,787	31,632
HICKORY	8,872	5,762
YELLOW BIRCH	--	--
HARD MAPLE	70	--
SWEETGUM	71,257	28,949
ASH, WALNUT, AND BLACK CHERRY	9,584	2,419
YELLOW-POPLAR	29,188	6,068
TUPELO AND BLACKGUM	44,528	23,101
BAY AND MAGNOLIA	800	--
OTHER EASTERN HARDWOODS	27,587	9,021
TOTAL HARDWOODS	320,199	120,884
ALL SPECIES	965,769	486,553

TABLE 19. -MORTALITY OF GROWING STOCK AND SAWTIMBER ON COMMERCIAL FOREST LAND, BY SPECIES, 1977

SPECIES	GROWING STOCK	SAWTIMBER
	THOUSAND CUBIC FEET	THOUSAND BOARD FEET
SOFTWOOD:		
YELLOW PINES	11,678	30,286
EASTERN WHITE PINE	--	--
SPRUCE AND FIR	--	--
CYPRESS	441	--
OTHER EASTERN SOFTWOODS	79	392
TOTAL SOFTWOODS	12,198	30,678
HARDWOOD:		
SELECT WHITE AND RED OAKS	653	2,224
OTHER WHITE AND RED OAKS	4,081	10,387
HICKORY	200	589
YELLOW BIRCH	--	--
HARD MAPLE	--	--
SWEETGUM	1,247	3,029
ASH, WALNUT, AND BLACK CHERRY	1,164	3,192
YELLOW-POPLAR	390	1,040
TUPELO AND BLACKGUM	917	2,976
BAY AND MAGNOLIA	--	--
OTHER EASTERN HARDWOODS	2,110	6,535
TOTAL HARDWOODS	10,762	29,972
ALL SPECIES	22,960	60,650

TABLE 20. --VOLUME OF ALL LIVE TREES AND GROWING STOCK ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1978

OWNERSHIP CLASS	ALL LIVE TREES				GROWING STOCK					
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
THOUSAND CUBIC FEET										
NATIONAL FOREST	18,919	10,100	--	5,535	3,284	18,397	9,971	--	5,142	3,284
OTHER PUBLIC	341,214	178,771	6,694	93,246	62,503	320,138	176,938	6,482	83,093	53,625
FOREST INDUSTRY	975,446	392,789	54,477	323,109	205,071	865,979	377,227	52,011	258,633	178,108
FARMER	1,907,322	741,700	66,368	668,358	430,896	1,658,734	722,173	63,740	539,909	332,912
MISCELLANEOUS PRIVATE	1,857,492	817,684	86,564	496,555	456,689	1,635,401	799,891	83,611	399,627	352,272
ALL OWNERSHIPS	5,100,393	2,141,044	214,103	1,586,803	1,158,443	4,498,649	2,086,200	205,844	1,286,404	920,201

TABLE 21. --VOLUME OF SAWTIMBER ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1978

OWNERSHIP CLASS	SMALL SAWTIMBER ¹					LARGE SAWTIMBER ²				
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
THOUSAND BOARD FEET										
NATIONAL FOREST	25,203	19,251	-	5,952	-	30,129	3,844	-	17,514	8,771
OTHER PUBLIC	555,072	414,166	9,140	85,987	46,779	534,623	359,537	-	140,565	120,221
FOREST INDUSTRY	1,222,789	697,370	106,077	261,336	158,006	1,589,366	389,027	14,300	593,159	509,183
FARMER	2,588,452	1,513,259	114,375	632,671	378,147	2,846,261	1,221,606	97,988	866,907	636,400
MISCELLANEOUS PRIVATE	2,731,705	1,865,290	109,584	439,935	316,896	2,743,660	938,656	247,348	685,987	811,669
ALL OWNERSHIPS	7,124,221	4,509,336	339,176	1,425,881	849,828	7,744,039	2,872,679	480,984	2,304,132	2,086,244
' VOLUME OF SAWTIMBER TREES LESS THAN 15.0 INCHES AT D.B.H.										
' VOLUME OF SAWTIMBER TREES 15.0 INCHES AND LARGER AT D.B.H.										

¹ VOLUME OF SAWTIMBER TREES LESS THAN 15.0 INCHES AT D.B.H.

² VOLUME OF SAWTIMBER TREES 15.0 INCHES AND LARGER AT D.B.H.

TABLE 22. --NET ANNUAL GROWTH AND REMOVALS OF GROWING STOCK ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1977

OWNERSHIP CLASS	NET ANNUAL GROWTH				ANNUAL TIMBER REMOVALS				
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	HARD HARDWOOD
THOUSAND CUBIC FEET									
NATIONAL FOREST	1,227	1,018	131	131	1,995	2,602	2,602	5,678	4,480
OTHER PUBLIC	17,390	11,811	131	3,453	6,435	37,249	26,490	8,337	6,118
FOREST INDUSTRY	54,215	38,152	1,169	8,459	16,049	48,695	33,618	622	3,857
FARMER	95,184	56,344	1,294	21,497	14,011	40,411	31,967	294	3,857
MISCELLANEOUS PRIVATE	91,998	61,248	1,783	14,956	14,011	40,411	31,967	294	3,857
ALL OWNERSHIPS	260,014	168,573	4,377	48,496	38,568	128,957	94,677	1,517	14,455

TABLE 23. --NET ANNUAL GROWTH AND REMOVALS OF SAWTIMBER ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1977

OWNERSHIP CLASS	NET ANNUAL GROWTH				ANNUAL TIMBER REMOVALS				
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	HARD HARDWOOD
THOUSAND BOARD FEET									
NATIONAL FOREST	6,467	4,518	617	694	1,255	4,201	4,201	2,942	15,715
OTHER PUBLIC	76,428	54,691	617	13,507	7,613	101,345	101,345	3,036	21,880
FOREST INDUSTRY	183,329	117,005	5,415	30,326	30,583	140,362	120,194	1,538	16,953
FARMER	353,134	216,980	5,998	76,911	53,245	174,013	132,413	1,538	16,953
MISCELLANEOUS PRIVATE	346,411	231,799	8,547	50,563	55,502	167,977	132,413	1,538	16,953
ALL OWNERSHIPS	965,769	624,993	20,577	172,001	148,198	486,553	358,153	7,516	54,548

FOREST TYPE, SPECIES GROUP, AND CLASS OF MATERIAL	ALL OWNERSHIPS		OWNERSHIP CLASS									
			NATIONAL FOREST		OTHER PUBLIC		FOREST INDUSTRY		FARMER		MISC. PRIVATE	
	BOARD FEET	CUBIC FEET	BOARD FEET	CUBIC FEET	BOARD FEET	CUBIC FEET	BOARD FEET	CUBIC FEET	BOARD FEET	CUBIC FEET	BOARD FEET	CUBIC FEET
PINE TYPES:												
GROWING STOCK:												
SOFTWOOD	4,068	1,229	7,934	3,425	4,219	1,207	2,898	1,097	4,390	1,226	4,424	1,302
HARDWOOD	142	79	-	-	88	44	74	51	160	98	178	87
TOTAL	4,210	1,308	7,934	3,425	4,307	1,251	2,972	1,148	4,550	1,324	4,602	1,389
OTHER TIMBER:												
SOFTWOOD	-	33	-	44	-	13	-	49	-	32	-	29
HARDWOOD	-	27	-	-	-	5	-	16	-	31	-	34
TOTAL	-	60	-	44	-	18	-	65	-	63	-	63
OAK-PINE TYPES:												
GROWING STOCK:												
SOFTWOOD	2,745	635	-	-	4,411	941	2,214	517	3,162	714	2,250	548
HARDWOOD	973	396	-	-	1,217	549	1,146	481	989	414	878	335
TOTAL	3,718	1,031	-	-	5,628	1,490	3,360	998	4,151	1,128	3,128	883
OTHER TIMBER:												
SOFTWOOD	-	13	-	-	-	15	-	16	-	15	-	11
HARDWOOD	-	120	-	-	-	88	-	109	-	139	-	111
TOTAL	-	133	-	-	-	103	-	125	-	154	-	122
UPLAND HARDWOOD TYPES:												
GROWING STOCK:												
SOFTWOOD	596	142	-	-	1,055	231	767	172	499	124	604	144
HARDWOOD	1,666	609	-	-	2,852	777	3,466	1,009	1,261	527	1,600	600
TOTAL	2,262	751	-	-	3,907	1,008	4,233	1,181	1,760	651	2,204	744
OTHER TIMBER:												
SOFTWOOD	-	7	-	-	-	236	-	5	-	8	-	6
HARDWOOD	-	180	-	-	-	-	-	137	-	166	-	196
TOTAL	-	187	-	-	-	236	-	142	-	174	-	202
BOTTOM AND HARDWOOD TYPES:												
GROWING STOCK:												
SOFTWOOD	1,366	314	-	-	1,998	427	1,659	399	986	240	1,623	351
HARDWOOD	5,792	1,797	11,078	2,895	7,099	2,543	7,417	2,036	5,318	1,647	5,616	1,747
TOTAL	7,158	2,111	11,078	2,895	9,097	2,970	9,076	2,435	6,304	1,887	7,239	2,098
OTHER TIMBER:												
SOFTWOOD	-	10	-	-	-	6	-	14	-	9	-	9
HARDWOOD	-	396	-	135	-	221	-	434	-	387	-	409
TOTAL	-	406	-	135	-	227	-	448	-	396	-	418
ALL TYPES:												
GROWING STOCK:												
SOFTWOOD	2,545	711	3,968	1,713	3,333	877	2,243	763	2,382	630	2,687	737
HARDWOOD	2,068	585	5,538	1,447	1,882	654	2,734	776	1,576	700	1,881	627
TOTAL	4,613	1,396	9,506	3,160	5,215	1,531	4,977	1,539	4,338	1,330	4,568	1,364
OTHER TIMBER:												
SOFTWOOD	-	20	-	22	-	10	-	32	-	18	-	17
HARDWOOD	-	167	-	62	-	91	-	162	-	182	-	168
TOTAL	-	187	-	84	-	101	-	194	-	200	-	185
ALL TIMBER	4,613	1,583	9,506	3,244	5,215	1,632	4,977	1,733	4,358	1,530	4,568	1,549
ROUGH AND ROTTEN TREES:												

Sheffield, Raymond M., and Joanne Hutchison

1979. Forest statistics for the Southern Coastal Plain of South Carolina, 1978. U.S. Dep. Agric. For. Serv., Resour. Bull. SE-49, 33 p. Southeast For. Exp. Stn., Asheville, N.C.

Since 1968, the area of commercial forest land in this 12 county area has decreased by 41,000 acres, or about 1 percent. Commercial forests now occupy 3.2 million acres, or 62 percent of the total land area. Farmer-owned woodlands decreased by 430,000 acres, with most of this acreage moving to the miscellaneous private, corporate class. The inventory of softwood and hardwood growing stock increased by 43 and 20 percent, respectively. Loblolly pine volume increased by 52 percent. Net annual growth of growing stock averaged 81 cubic feet per acre of commercial forest land, more than double the volume of annual timber removals.

KEYWORDS: Forest trends, commercial forest land, forest ownership, timber volume, timber growth, timber removals.

Sheffield, Raymond M., and Joanne Hutchison

1979. Forest statistics for the Southern Coastal Plain of South Carolina, 1978. U.S. Dep. Agric. For. Serv., Resour. Bull. SE-49, 33 p. Southeast For. Exp. Stn., Asheville, N.C.

Since 1968, the area of commercial forest land in this 12 county area has decreased by 41,000 acres, or about 1 percent. Commercial forests now occupy 3.2 million acres, or 62 percent of the total land area. Farmer-owned woodlands decreased by 430,000 acres, with most of this acreage moving to the miscellaneous private, corporate class. The inventory of softwood and hardwood growing stock increased by 43 and 20 percent, respectively. Loblolly pine volume increased by 52 percent. Net annual growth of growing stock averaged 81 cubic feet per acre of commercial forest land, more than double the volume of annual timber removals.

KEYWORDS: Forest trends, commercial forest land, forest ownership, timber volume, timber growth, timber removals.



The Forest Service, U. S. Department of Agriculture, is dedicated to the principle of multiple use management of the Nation's forest resources for sustained yields of wood, water, forage, wildlife, and recreation. Through forestry research, cooperation with the States and private forest owners, and management of the National Forests and National Grasslands, it strives—as directed by Congress—to provide increasingly greater service to a growing Nation.

USDA policy does not permit discrimination because of race, color, national origin, sex or religion. Any person who believes he or she has been discriminated against in any USDA-related activity should write immediately to the Secretary of Agriculture, Washington, D. C. 20250.



United States
Department of
Agriculture

FOREST SERVICE
Resource Bulletin
SE-50

Raymond M. Sheffield

FOREST STATISTICS for SOUTH CAROLINA, 1978



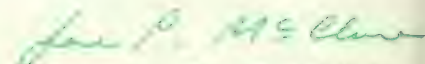
FOREWORD

This report highlights the principal findings of the fifth inventory of South Carolina's forests. Fieldwork began in April 1977 and was completed in August 1978. Four previous statewide inventories, completed in 1936, 1947, 1956, and 1968, provide statistics for measuring changes and trends over the past 42 years. The primary emphasis in this report is on the changes and trends since 1968. Previously reported figures have been adjusted to provide the best estimate of change.

Renewable Resources Evaluation (formerly Forest Survey) is authorized by the Forest and Rangeland Renewable Resources Research Act of 1978. The inventory is a continuing, nationwide undertaking by the regional experiment stations of the Forest Service, USDA. In Florida, Georgia, North Carolina, South Carolina, and Virginia, Renewable Resources Evaluation is administered through the Southeastern Forest Experiment Station, with headquarters in Asheville, North Carolina. The primary objective of the survey is to periodically inventory and evaluate the forest and related resources. These inventories provide information on the extent and condition of forest lands, volume of timber, and rates of timber growth and removals. These evaluations help provide a basis for the formulation of forest policies and programs and for the orderly development and use of the resources.

Reports for each of the three survey units in South Carolina, USDA Forest Service Resource Bulletin 86-45, 56-47, and 56-49, have been issued for the Piedmont, Northern Coastal Plain and Southern Coastal Plain, respectively. Two in-depth, analytical State reports, one dealing solely with timber and the second with all forest-related resources, should be available in early 1980.

The Southeastern Station gratefully acknowledges the cooperation of the South Carolina Commission of Forestry. Appreciation is also expressed for the excellent cooperation of other public agencies, forest industry, and private landowners in providing information and access to the sample locations.


JOE P. MCCLURE
Project Leader

August 1979

Southeastern Forest Experiment Station
Asheville, North Carolina

**FOREST STATISTICS
for
SOUTH CAROLINA,
1978**

by

**Raymond M. Sheffield, Resource Analyst
Asheville, North Carolina**

CONTENTS

	<u>Page</u>
HIGHLIGHTS - - - - -	1
HOW THE INVENTORY IS MADE - - - - -	3
RELIABILITY OF THE DATA - - - - -	4
DEFINITIONS OF TERMS - - - - -	6
COUNTY TABLES	
1. Area, by land class - - - - -	13
2. Area of commercial forest land, by ownership class - - - - -	14
3. Area of commercial forest land, by forest-type group - - - - -	15
4. Area of commercial forest land, by stand-size class - - - - -	16
5. Area of commercial forest land, by site class - - - - -	17
6. Area of commercial forest land, by stocking classes of growing-stock trees - - - - -	18
7. Volume of sawtimber and growing stock on commercial forest land, by species group - - - - -	19
8. Net annual growth of sawtimber and growing stock on commercial forest land, by species group - - - - -	20
9. Annual removals of sawtimber and growing stock on commercial forest land, by species group - - - - -	21
STATE TABLES	
10. Area of commercial forest land, by forest type and ownership class - - - - -	22
11. Area of commercial forest land, by ownership and stocking classes of growing-stock trees - - - - -	22
12. Volume of timber on commercial forest land, by class and species group - - - - -	23
13. Number of growing-stock trees on commercial forest land, by species and diameter class - - - - -	24
14. Volume of all live trees on commercial forest land, by species and diameter class - - - - -	25
15. Volume of growing stock on commercial forest land, by species and diameter class - - - - -	26
16. Volume of sawtimber on commercial forest land, by species and diameter class - - - - -	27
17. Net annual growth and removals of growing stock on commercial forest land, by species - - - - -	28
18. Net annual growth and removals of sawtimber on commercial forest land, by species - - - - -	28
19. Mortality of growing stock and sawtimber on commercial forest land, by species - - - - -	29
20. Volume of all live trees and growing stock on commercial forest land, by ownership class and species group - - - - -	30
21. Volume of sawtimber on commercial forest land, by ownership class and species group - - - - -	30
22. Net annual growth and removals of growing stock on commercial forest land, by ownership class and species group - - - - -	31
23. Net annual growth and removals of sawtimber on commercial forest land, by ownership class and species group - - - - -	31
24. Average net volume per acre of sawtimber, growing stock, and other live timber on commercial forest land, by ownership class, major forest type, and species group - - - - -	32
25. Land area, by class, major forest type, and survey completion date - - - - -	33
26. Volume of sawtimber, growing stock, and all live timber on commercial forest land, by species group, diameter class, and survey completion date - - - - -	34

HIGHLIGHTS

Since the fourth inventory of South Carolina's forest resources was completed in 1968—

area of commercial forest land has increased by 76,000 acres, or less than 1 percent. Increases occurred in the Northern Coastal Plain and Piedmont Survey Units. Statewide, over 371,000 acres were added to the commercial forest-land base, while 295,000 acres were diverted to other land uses. Almost 42 percent of the diversions was to agricultural uses, over 40 percent to urban and other, and the remaining 18 percent to water and noncommercial forest. Commercial forests now occupy 12.5 million acres, or 65 percent of South Carolina's total land area.

miscellaneous private, corporate owners have increased their holdings by nearly 945,000 acres. This increase resulted from a shift of acres from farmers and miscellaneous private individuals, who collectively own 63 percent of the commercial forests. Forest industries have increased their fee-simple holdings by 195,000 acres, or by 10 percent. Nearly 9 percent of the commercial forest area is publicly owned, about the same as in 1968.

one half of the commercial forest acreage has been treated or significantly disturbed. Over 2.0 million acres were harvested, while 1.9 million acres experienced intermediate cutting. Altogether, about 568,000 acres of harvested, site prepared, and idle land were artificially regenerated. About 70 percent of this artificial regeneration was on lands owned or leased by forest industry. Disease, fire, insects, weather, and other natural destructive agents have caused significant damage to forests on more than 941,000 acres.

acreage occupied by pine forest types has increased by 81,000 acres, or by 1.5 percent. Almost all the increase occurred in the two Coastal Plain Survey Units. Loblolly pine types now occupy 3.4 million acres, up by 17 percent. The other major pine types and the oak-pine type declined in acreage. Relatively undisturbed stands or stands experiencing natural disturbances accounted for 42 percent of the increase in pine types, while forestry practices accounted for nearly 40 percent. Acreage added to commercial forest through natural reversions on nonforest lands contributed the remaining 18 percent. In contrast to the net increase in pine types, over 42 percent of all pine types harvested since the fourth survey are now classified as oak-pine or hardwood types.

average basal area of all live trees 5.0 inches d.b.h. and larger has increased from 57 to 71 square feet per acre of commercial forest land. Rough and rotten trees make up 15 percent of the basal-area stocking. Stands classified as fully stocked with growing-stock trees comprise 35 percent of all commercial forests, up from 17 percent in 1968. Nonstocked and poorly stocked forest acres total 2.4 million acres, down from 3.5 million acres in 1968. The number of softwood saplings has declined by 20 percent, while the number of hardwood saplings has increased by 4 percent.

volume of softwood growing stock has increased from 6.7 to 8.9 billion cubic feet, or by 33 percent. Loblolly pine accounted for nearly 73 percent of the increase and now makes up 60 percent of the softwood inventory. Volume of shortleaf pine, the second-leading softwood species, increased by 12 percent, while the volume of longleaf pine, the third-leading species, was essentially unchanged. Slash pine ranks fourth in abundance and increased in volume by 148 percent. The softwood-volume increase occurred across all diameter classes, but the increase in

the 6-inch class was noticeably less than in larger diameters. The current inventory of softwood growing stock includes 31.3 billion board feet of sawtimber, an increase of 37 percent.

volume of hardwood growing stock has increased from 6.6 to 8.3 billion cubic feet, or by 25 percent. Sweetgum, tupelo, blackgum, and a variety of red oak species make up 59 percent of the hardwood inventory and accounted for 57 percent of the increase. Yellow-poplar made the largest percentage gain, increasing by 51 percent. Substantial gains occurred across the entire range of diameter classes. The current inventory of hardwood growing stock includes 24.2 billion board feet of sawtimber, up by 28 percent.

In 1977—

net annual growth of growing stock averaged 77 cubic feet per acre of commercial forest land and totaled 963 million cubic feet. This growth rate—a record high for any State in the Southeast—is attributed to the rapid development of young pine stands established on retired cropland between 1940 and the early sixties. Softwood net growth exceeded removals by 71 percent, while hardwood net growth exceeded removals by 155 percent. By ownership, 10 percent of the net growth occurred on publicly owned lands, 18 percent on forest industry lands, 34 percent on farmer-owned woodlands, and the remaining 38 percent on miscellaneous private ownerships. Total net annual growth of growing stock included 3.5 billion board feet of sawtimber.

annual removals of growing stock totaled 496 million cubic feet and included 1.8 billion board feet of sawtimber. Softwood growing-stock removals increased by 25 percent since the fourth survey, but hardwood removals declined by 12 percent. By ownership, 10 percent of the removals was from public forests, 25 percent from forest industry lands, 31 percent from farmer-owned lands, and 34 percent from miscellaneous private forests. Softwoods provide a disproportionate share of the growing-stock removals. Softwoods make up 52 percent of the inventory and 64 percent of the net growth, but provide 73 percent of the removals.

mortality of growing stock totaled 112 million cubic feet and included 313 million board feet of sawtimber. Softwoods accounted for 63 percent of the mortality. The leading identifiable causes of death were insects, suppression, disease, and weather. Total mortality of growing stock reduced gross growth by 10 percent.

HOW THE INVENTORY IS MADE

The method of the inventory is a sampling procedure designed to provide reliable statistics primarily at the State and Survey Unit levels. Individual county statistics are presented so that any combination of counties may be added together until a total is large enough to meet the desired degree of reliability. Procedures were as follows:

1. Initial estimates of forest and nonforest areas were based on the classification of 67,524 sample clusters systematically spaced on the latest aerial photographs available. A subsample of 6,466 of the 16-point clusters was ground checked, and a linear regression was fitted to the data to develop the relationship between the photo and ground classification of the subsample. This procedure provides a means for adjusting the initial estimates of area for change in land use since date of photography and for photo misclassifications.

2. Estimates of timber volume and forest classifications were based on measurements recorded at 4,038 ground sample locations systematically distributed within the forest land. A 10-point cluster of plots, measured with a basal-area factor of 37.5 square feet per acre, was established on an acre at each of these sample locations. Trees less than 5 inches d.b.h. were tallied on a portion of the fixed-radius plots around the point centers.

3. Equations prepared from detailed measurements collected on standing trees in South Carolina, and similar measurements taken throughout the Southeast, were used to compute the volume of individual tally trees. A mirror caliper and sectional aluminum poles were used to obtain the additional measurements on these standing trees required to construct volume equations.

4. Felled trees were measured at 93 active cutting operations. These data will be pooled with similar measurements taken in the State to supplement the standing-tree-volume study and to generate utilization factors for product and species groups that will be analyzed at the State level.

5. Estimates of growth, removals, and mortality were determined from the remeasurement of 4,231 permanent sample plots which were established in the fourth survey.

6. Ownership information was collected from correspondence, public records, and local contacts. In those counties where the sample missed a particular ownership class, temporary sample plots were added on these lands.

7. All field data were sent to Asheville for editing and were punched into cards and stored for machine computing, sorting, and tabulation. Final estimates were based on statistical summaries of the data.

RELIABILITY OF THE DATA

Statistical analysis of these data indicates the following sampling errors in terms of one standard error (two times out of three):

	<i>Percent</i>
Per million acres of commercial forest land	0.95
Per billion cubic feet of growing stock	5.50
Per billion cubic feet of net annual growth	1.32
Per billion cubic feet of annual removals	2.40

*SAMPLING ERRORS FOR COUNTY AND UNIT TOTALS,¹ IN TERMS OF
ONE STANDARD ERROR*

COUNTY	COMMERCIAL FOREST AREA	CUBIC-FOOT VOLUME OF GROWING STOCK		
		INVENTORY	GROWTH	REMOVALS
- - - - - SAMPLING ERROR ² - - - - -				
ABBEVILLE	2.86	11.29	8.99	28.46
AIKEN	1.09	8.87	8.61	18.68
ALLENDALE	2.44	11.22	12.43	33.32
ANDERSON	2.51	7.49	10.01	28.46
BAMBERG	2.44	9.27	9.36	24.45
BARNWELL	1.43	10.27	9.68	22.49
BEAUFORT	3.17	11.13	11.10	42.30
BERKELEY	0.87	5.38	5.49	10.81
CALHOUN	3.01	13.24	13.41	36.49
CHARLESTON	1.91	6.51	6.37	21.48
CHEROKEE	3.33	12.27	13.45	35.36
CHESTER	1.87	9.55	8.95	31.78
CHESTERFIELD	1.28	9.97	9.45	20.49
CLARENDON	2.14	10.21	9.18	28.38
COLLETON	1.06	6.47	6.32	18.19
DARLINGTON	2.37	11.01	8.48	22.90
DILLON	2.12	11.76	9.94	27.01
DORCHESTER	1.48	7.13	8.10	22.17
EDGEFIELD	2.44	8.31	9.36	22.99
FAIRFIELD	0.79	7.71	6.23	20.73
FLORENCE	1.55	7.28	7.01	19.67
GEORGETOWN	1.32	7.04	7.07	16.19
GREENVILLE	1.95	6.91	10.87	26.95
GREENWOOD	2.04	12.78	10.61	24.96
HAMPTON	1.65	8.02	6.90	25.58
HORRY	1.05	6.34	6.04	17.36
JASPER	1.66	8.70	10.11	24.23
KERSHAW	1.07	8.51	7.25	14.29
LANCASTER	1.44	11.24	13.32	24.50
LAURENS	1.64	8.97	9.90	23.40
LEE	2.61	12.25	13.90	25.58
LEXINGTON	2.24	11.25	11.11	23.04
MCCORMICK	1.58	9.95	8.77	22.96
MARION	1.86	9.71	7.83	18.86
MARLBORO	2.39	10.16	9.77	22.04
NEWBERRY	1.44	6.84	8.08	18.48
OCONEE	1.92	6.95	10.45	29.71
ORANGEBURG	1.56	7.68	8.59	17.47
PICKENS	1.75	9.73	9.85	23.87
RICHLAND	1.60	7.50	7.28	17.91
SALUDA	2.32	12.00	12.59	23.70
SPARTANBURG	2.11	9.88	9.53	33.09
SUMTER	1.95	9.04	7.71	20.48
UNION	1.22	8.78	9.14	23.95
WILLIAMSBURG	1.29	5.94	6.38	13.95
YORK	3.25	9.55	9.74	30.96
UNIT TOTAL	0.27	1.35	1.32	3.36

¹ SAMPLING ERROR OF BREAKDOWNS OF COUNTY AND UNIT TOTALS
MAY BE COMPUTED WITH THE FOLLOWING FORMULA:

$$E = \frac{(SE) \sqrt{(\text{SPECIFIED VOLUME OR AREA})}}{\sqrt{(\text{VOLUME OR AREA TOTAL IN QUESTION})}}$$

WHERE: E = SAMPLING ERROR OF THE VOLUME OR AREA TOTAL IN
QUESTION.

SE = SPECIFIED SAMPLING ERROR IN TABLE.

² BY RANDOM-SAMPLING FORMULA (IN PERCENT).

DEFINITIONS OF TERMS

Acceptable trees.--Growing-stock trees of commercial species that meet specified standards of size and quality, but not qualifying as desirable trees.

Basal area.--The area in square feet of the cross section at breast height of a single tree or of all the trees in a stand, usually expressed as square feet of basal area per acre.

Commercial forest land.--Forest land producing or capable of producing crops of industrial wood and not withdrawn from timber utilization.

Commercial species.--Tree species presently or prospectively suitable for industrial wood products.

Cropland.--Land under cultivation within the past 24 months, including orchards and land in soil-improving crops, but excluding land cultivated in developing improved pasture. Also includes idle farmland.

Desirable trees.--Growing-stock trees of commercial species having no serious defects in quality limiting present or prospective use for timber products, of relatively high vigor, and containing no pathogens that may result in death or serious deterioration before rotation age.

Diameter class.--A classification of trees based on diameter outside bark, measured at breast height ($4\frac{1}{2}$ feet above the ground). D.b.h. is the common abbreviation for "diameter at breast height." Two-inch-diameter classes are commonly used in Forest Survey, with the even inch the approximate midpoint for a class. For example, the 6-inch class includes trees 5.0 through 6.9 inches d.b.h., inclusive.

Farm.--Either a place operated as a unit of 10 or more acres from which the sale of agricultural products totaled \$50 or more annually, or a place operated as a unit of less than 10 acres from which the sale of agricultural products for the year amounted to at least \$250.

Farm operator.--A person who operates a farm, either doing the work himself or directly supervising the work.

Farmer-owned lands.--Lands owned by farm operators.

Forest industry lands.--Lands owned by companies or individuals operating wood-using plants.

Forest land.--Land at least 16.7 percent stocked by forest trees of any size, or formerly having had such tree cover, and not currently developed for nonforest use.

Forest type.--A classification of forest land based upon the species forming a plurality of live-tree stocking.

Longleaf-slash pine.--Forests in which longleaf or slash pine, singly or in combination, comprises a plurality of the stocking. (Common associates include oak, hickory, and gum.)

Loblolly-shortleaf pine.--Forests in which loblolly pine, shortleaf pine, or other southern yellow pines, except longleaf or slash pine, singly or in combination, comprise a plurality of the stocking. (Common associates include oak, hickory, and gum.)

Oak-pine.--Forests in which hardwoods (usually upland oaks) comprise a plurality of the stocking but in which pines comprise 25 to 50 percent of the stocking. (Common associates include gum, hickory, and yellow-poplar.)

Oak-hickory.--Forests in which upland oaks or hickory, singly or in combination, comprise a plurality of the stocking, except where pines comprise 25 to 50 percent, in which case the stand would be classified oak-pine. (Common associates include yellow-poplar, elm, maple, and black walnut.)

Oak-gum-cypress.--Bottomland forests in which tupelo, blackgum, sweetgum, oaks, or southern cypress, singly or in combination, comprises a plurality of the stocking, except where pines comprise 25 to 50 percent, in which case the stand would be classified oak-pine. (Common associates include cottonwood, willow, ash, elm, hackberry, and maple.)

Elm-ash-cottonwood.--Forests in which elm, ash, or cottonwood, singly or in combination, comprises a plurality of the stocking. (Common associates include willow, sycamore, beech, and maple.)

Gross growth.--Annual increase in net volume of trees in the absence of cutting and mortality.

Growing-stock trees.--Live trees of commercial species qualifying as desirable or acceptable trees.

Growing-stock volume.--Net volume in cubic feet of growing-stock trees 5.0 inches d.b.h. and over from a 1-foot stump to a minimum 4.0-inch top diameter outside bark of the central stem, or to the point where the central stem breaks into limbs. (Net volume in primary forks is included.)

Hardwoods.--Dicotyledonous trees, usually broad-leaved and deciduous.

Soft hardwoods.--Soft-textured hardwoods such as boxelder, red and silver maple, buckeye, hackberry, loblolly-bay, silverbell (in mountains), butternut, sweetgum, yellow-poplar, cucumbertree, magnolia, sweetbay, water tupelo, blackgum, sycamore, cottonwood, black cherry, willow, basswood, and elm.

Hard hardwoods.--Hard-textured hardwoods such as Florida and sugar maple, birch, hickory, dogwood, persimmon (forest grown), beech, ash, honeylocust, holly, black walnut, mulberry, all commercial oaks, and black locust.

Idle farmland.--Includes former croplands, orchards, improved pastures and farm sites not tended within the past 2 years, and presently less than 16.7 percent stocked with trees.

Improved pasture.--Land currently improved for grazing by cultivation, seeding, irrigation, or clearing of trees or brush.

Industrial wood.--All roundwood products except fuelwood.

Land area.--The area of dry land and land temporarily or partly covered by water such as marshes, swamps, and river flood plains (omitting tidal flats below mean high tide); streams, sloughs, estuaries, and canals less than 1/8 of a statute mile in width; and lakes, reservoirs, and ponds less than 40 acres in area.

Logging residues.--The unused portions of trees cut or killed by logging.

Miscellaneous Federal lands.--Federal lands other than National Forests, lands administered by the Bureau of Land Management, and Indian lands.

Miscellaneous private lands - corporate.--Lands owned by private corporations other than forest industry.

Miscellaneous private lands - individual.--Privately owned lands other than forest-industry, farmer-owned, or corporate lands.

Mortality.--Number or sound-wood volume of live trees dying from natural causes during a specified period.

National Forest land.--Federal lands which have been legally designated as National Forests or purchase units, and other lands under the administration of the Forest Service, including experimental areas and Bankhead-Jones Title III lands.

Net annual growth.--The increase in volume for a specific year.

Net volume.--Gross volume less deductions for rot, sweep, or other defect affecting use for timber products.

Noncommercial forest land.--(a) Unproductive forest land incapable of yielding crops of industrial wood because of adverse site conditions, and (b) productive-reserved forest land.

Noncommercial species.--Tree species of typically small size, poor form, or inferior quality which normally do not develop into trees suitable for industrial wood products.

Nonforest land.--Land that has never supported forests and lands formerly forested where timber management is precluded by development for other uses.

Nonstocked land.--Commercial forest land less than 16.7 percent stocked with growing-stock trees.

Other Federal lands.--Federal lands other than National Forests, including lands administered by the Bureau of Land Management, Bureau of Indian Affairs, and other Federal agencies.

Other public lands.--Publicly owned lands other than National Forests.

Overstocked areas.--Areas where growth of trees is significantly reduced by excessive numbers of trees.

Poletimber trees.--Growing-stock trees of commercial species at least 5.0 inches in d.b.h. but smaller than sawtimber size.

Productive-reserved forest land.--Forest land sufficiently productive to qualify as commercial forest land, but withdrawn from timber utilization through statute or administrative designation.

Rangeland.--Land on which the natural plant cover is composed principally of native grasses, forbs, or shrubs valuable for forage.

Rotten trees.--Live trees of commercial species that do not contain at least one 12-foot saw log, or two noncontiguous saw logs, each 8 feet or longer, now or prospectively, primarily because of rot or missing sections, and with less than one-third of the gross tree volume in sound material.

Rough trees.--(a) Live trees of commercial species that do not contain at least one 12-foot saw log, or two noncontiguous saw logs, each 8 feet or longer, now or prospectively, primarily because of roughness, poor form, splits, and cracks, and with less than one-third of the gross tree volume in sound material; and (b) all live trees of noncommercial species.

Salvable dead trees.--Standing or down dead trees that are considered merchantable by Forest Survey standards.

Saplings.--Live trees 1.0 to 5.0 inches in diameter at breast height.

Saw log.--A log meeting minimum standards of diameter, length, and defect, including logs at least 8 feet long, sound and straight, and with a minimum diameter inside bark for softwoods of 6 inches (8 inches for hardwoods).

Saw-log portion.--That part of the bole of sawtimber trees between the stump and the saw-log top.

Saw-log top.--The point on the bole of sawtimber trees above which a saw log cannot be produced. The minimum saw-log top is 7.0 inches d.o.b. for softwoods and 9.0 inches d.o.b. for hardwoods.

Sawtimber trees.--Live trees of commercial species containing at least a 12-foot saw log, or two noncontiguous saw logs, each 8 feet or longer, and with at least one-third of the gross board-foot volume between the 1-foot stump and minimum saw-log top being sound. Softwoods must be at least 9.0 inches and hardwoods at least 11.0 inches in diameter at breast height.

Sawtimber volume.--Net volume of the saw-log portion of live sawtimber in board-foot International 1/4-inch rule.

Seedlings.--Live trees less than 1.0 inch in diameter at breast height that are expected to survive and develop.

Site class.--A classification of forest land in terms of inherent capacity to grow crops of industrial wood based on fully stocked natural stands.

Class 1.--Sites capable of producing 165 or more cubic feet per acre annually.

Class 2.--Sites capable of producing 120 to 165 cubic feet per acre annually.

Class 3.--Sites capable of producing 85 to 120 cubic feet per acre annually.

Class 4.--Sites capable of producing 50 to 85 cubic feet per acre annually.

Class 5.--Sites incapable of producing 50 cubic feet per acre annually, but excluding unproductive sites.

Softwoods.--Coniferous trees, usually evergreen, having needles or scale-like leaves.

Pines.--Yellow pine species which include loblolly, longleaf, slash, shortleaf, pitch, Virginia, Table-Mountain, sand, and spruce pine.

Other softwoods.--White pine, hemlock, cypress, eastern redcedar, white-cedar, spruce, and fir.

Stand-size class.--A classification of forest land based on the size class of growing-stock trees on the area.

Sawtimber stands.--Stands at least 16.7 percent stocked with growing-stock trees, with half or more of total stocking in sawtimber or poletimber trees, and with sawtimber stocking at least equal to poletimber stocking.

Poletimber stands.--Stands at least 16.7 percent stocked with growing-stock trees of which half or more of this stocking is in poletimber and sawtimber trees, and with poletimber stocking exceeding that of sawtimber.

Sapling-seedling stands.--Stands at least 16.7 percent stocked with growing-stock trees of which more than half of the stocking is saplings and seedlings.

State, county, and municipal lands.--Lands owned by States, counties, and local public agencies or municipalities, or lands leased to these governmental units for 50 years or more.

Stocking.--The degree of occupancy of land by trees, measured by basal area or the number of trees in a stand and spacing in the stand, compared to a minimum standard, depending on tree size, to fully utilize the growth potential of the land. (See page 12.)

Timber removals.--The net volume of growing-stock trees removed from the inventory by harvesting; cultural operations, such as stand improvement; land clearing, or changes in land use.

Unproductive forest land.--Forest land incapable of producing 20 cubic feet per acre of industrial wood under natural conditions, because of adverse site conditions.

Upper-stem portion.--That part of the main stem or fork of sawtimber trees above the saw-log top to a minimum top diameter of 4.0 inches outside bark or to the point where the main stem or fork breaks into limbs.

Urban and other areas.--Areas within the legal boundaries of cities and towns; suburban areas developed for residential, industrial, or recreational purposes; school yards; cemeteries; roads; railroads; airports; beaches; powerlines and other rights-of-way; or other nonforest land not included in any other specified land use class.

STOCKING STANDARD

D.B.H. CLASS	MINIMUM NUMBER OF TREES PER ACRE FOR FULL STOCKING	MINIMUM BASAL AREA PER ACRE FOR FULL STOCKING	PERCENT STOCKING ASSIGNED EACH TALLY TREE ¹
SEEDLINGS	600	--	5.0
2	560	--	5.4
4	460	--	6.5
6	340	67	5.8
8	240	84	4.8
10	155	85	4.3
12	115	90	4.0
14	90	96	3.8
16	72	101	3.7
18	60	106	3.5
20	51	111	3.5

¹ TREES LESS THAN 5.0 INCHES D.B.H. WERE TALLIED ON A 10-POINT CLUSTER OF CIRCULAR, 1/300-ACRE PLOTS AT EACH SAMPLE LOCATION. TREES 5.0 INCHES D.B.H. AND LARGER WERE TALLIED ON A 10-POINT CLUSTER OF VARIABLE PLOTS USING A BASAL AREA FACTOR OF 37.5 AT EACH SAMPLE LOCATION.

OVERSTOCKED--OVER 130 PERCENT
FULLY STOCKED--100-130 PERCENT
MEDIUM STOCKED--60-99 PERCENT
POORLY STOCKED--16.7-59 PERCENT
NONSTOCKED--LESS THAN 16.7 PERCENT

CUBIC FEET OF WOOD PER AVERAGE CORD (EXCLUDING BARK)

D.B.H. CLASS	ALL SPECIES	PINE	OTHER SOFTWOOD	HARDWOOD
6	60.6	61.0	68.2	60.0
8	68.4	68.1	76.0	68.4
10	73.4	73.1	81.3	73.4
12	76.7	76.7	85.3	76.4
14	79.1	79.4	88.1	78.4
16	80.9	81.6	90.6	79.8
18	82.1	83.3	92.4	80.8
20	83.1	84.7	93.8	81.5
22	83.8	86.0	94.8	82.1
24+	84.8	87.8	98.1	83.1
AVERAGE	74.5	73.9	85.9	74.3

COUNTY TABLES

THE COUNTY TABLES ARE INTENDED FOR USE IN COMPILING FOREST RESOURCE ESTIMATES FOR GROUPS OF COUNTIES. BECAUSE THE SAMPLING PROCEDURE USED BY THE FOREST SURVEY WAS INTENDED PRIMARILY TO FURNISH INVENTORY DATA FOR THE SURVEY UNIT AS A WHOLE, INDIVIDUAL COUNTY ESTIMATES HAVE LIMITED AND VARIABLE ACCURACY. AS COUNTY TOTALS ARE BROKEN DOWN BY VARIOUS SUBDIVISIONS, THE POSSIBILITY OF ERROR INCREASES AND IS GREATEST FOR THE SMALLEST ITEMS. THE ORDER OF THIS INCREASE CAN BE COMPUTED WITH THE FORMULA ON PAGE 5.

TABLE 1. AREA, BY LAND CLASS AND COUNTY, 1978

COUNTY	ALL LAND ¹	FOREST LAND			NONFOREST LAND ²	
		TOTAL	COMMERCIAL FOREST	UNPRODUCTIVE FOREST		PRODUCTIVE RESERVED
ACRES						
ABBEVILLE	325,249	220,533	219,883		650	104,716
AIKEN	695,680	489,774	488,900	--	874	205,905
ALLENDALE	267,520	158,504	158,504	--		109,016
ANDERSON	477,332	208,201	208,201			269,131
BAMBERG	252,800	148,795	148,440		355	104,005
BARNWELL	353,920	226,357	226,228		129	127,563
BEAUFORT	370,560	142,161	140,531		1,630	228,399
BERKELEY	710,400	578,703	577,407		1,296	131,697
CALHOUN	241,280	130,243	130,243			111,037
CHARLESTON	600,960	310,989	304,245	1,697	5,047	289,971
CHEROKEE	252,781	155,752	154,802		950	97,029
CHESTER	374,532	290,814	290,619		195	83,718
CHESTERFIELD	505,600	339,177	337,976	--	1,201	166,423
CLARENDON	383,360	218,177	217,210	514	453	165,183
COLLETON	671,360	476,667	476,667			194,693
DARLINGTON	347,520	169,683	169,683			177,837
DILLON	260,480	144,979	144,331		648	115,501
DORCHESTER	364,160	271,644	271,334		310	92,516
EDGEFIELD	308,297	234,637	234,637			73,660
FAIRFIELD	442,192	386,015	386,015			56,177
FLORENCE	515,200	287,280	287,280			227,920
GEORGETOWN	519,680	378,174	374,248	1,456		141,506
GREENVILLE	508,208	299,821	278,448		21,373	208,387
GREENWOOD	289,866	206,286	205,672		614	83,580
HAMPTON	359,680	245,589	245,589			114,091
HORRY	738,560	490,332	489,560	256	516	248,228
JASPER	417,280	313,206	299,706		13,500	104,074
KERSHAW	499,840	395,135	394,680		455	104,705
LANCASTER	322,050	235,933	235,604		329	86,117
LAURENS	456,691	305,701	305,701			150,990
LEE	261,760	120,377	118,996		1,381	141,383
LEXINGTON	458,880	267,942	267,942			190,938
MCCORMICK	244,090	207,036	206,778		258	37,054
MARION	311,680	215,743	215,743			95,937
MARLBORO	309,120	172,181	172,181			136,939
NEWBERRY	407,824	315,829	315,829			91,995
OCONEE	399,670	284,580	280,294		4,286	115,090
ORANGEBURG	707,840	369,503	369,300		203	338,337
PICKENS	320,775	214,980	209,464		5,516	105,795
RICHLAND	478,720	328,485	327,160		1,325	150,235
SALUDA	286,161	187,758	187,758			98,403
SPARTANBURG	531,182	271,268	271,227		41	259,914
SUMTER	430,080	233,756	231,926		1,830	198,324
UNION	329,600	272,386	272,352	--	34	57,214
WILLIAMSBURG	598,400	388,860	388,860	--		209,540
YORK	440,887	269,252	264,752	--	4,500	171,635
TOTAL	19,349,707	12,579,198	12,502,906	3,893	72,399	6,770,509

¹ FROM U. S. BUREAU OF THE CENSUS, LAND AND WATER AREA OF THE UNITED STATES, 1970.

² INCLUDES 230,308 ACRES OF WATER ACCORDING TO SURVEY STANDARDS OF AREA CLASSIFICATION. BUT DEFINED BY THE BUREAU OF THE CENSUS AS LAND.

TABLE 2. -- AREA OF COMMERCIAL FORESTS, AND, BY OWNERSHIP CLASS AND COUNTY, 1978

COUNTY	OWNERSHIP CLASS	OWNERSHIP CLASS				FARMER			MISCELLANEOUS PRIVATE	
		NATIONAL FOREST	MISCELLANEOUS FEDERAL	STATE	COUNTY AND MUNICIPAL	FOREST INDUSTRY	FARMER	CORPORATE	INDIV DUAL	
ABBEVILLE	219,883	18,437	1,056	1,413	61,776	56,892	58,653	52,556	52,507	
AIKEN	488,900	6,021	3,908	1,413	843	48,825	157,756	53,146	150,620	
ALLENDALE	158,504	-	-	1	68	46,112	56,808	20,556	19,051	
ANDERSON	208,201	-	6,998	6,063	343	7,260	101,319	35,084	50,660	
BAMBERG	148,440	-	-	10	130	20,519	79,045	11,084	42,592	
BARNWELL	226,228	-	109,076	716	244	20,610	48,706	11,451	35,415	
BEAUFORT	140,531	-	4,376	1,502	567	9,478	14,835	26,702	83,071	
BERKELEY	577,407	183,687	9,550	1,078	551	154,798	97,374	37,696	81,673	
CAHOUN	130,243	-	-	1,595	34	5,009	60,236	3,291	40,118	
CHARLESTON	304,245	50,310	1,390	4,518	692	66,519	48,865	39,097	92,854	
CHEROKEE	154,802	-	-	-	88	11,668	91,767	10,652	40,627	
CHESTER	290,519	-	-	340	617	47,818	105,650	43,746	81,366	
CHESTERFIELD	337,976	-	41,759	48,312	128	22,194	141,020	20,693	63,870	
CLARENDON	217,210	-	2,320	4,624	50	43,153	102,390	21,556	43,117	
COLLETON	476,667	-	-	1,447	690	115,554	217,192	24,133	117,651	
DARLINGTON	169,683	-	-	1,664	226	12,710	102,272	15,754	37,057	
DILLON	144,331	-	-	-	138	24,231	84,228	15,974	20,421	
DORCHESTER	271,334	-	-	1,714	50	82,160	117,478	5,331	41,958	
EDGEFIELD	234,637	29,462	-	-	235	50,711	62,695	14,087	86,203	
FAIRFIELD	386,015	12,748	-	3,000	60	83,194	101,377	17,635	171,549	
FLORENCE	287,280	-	-	893	317	49,381	198,512	35,748	58,861	
GEORGETOWN	374,248	-	-	366	515	221,997	56,762	37,714	94,604	
GREENVILLE	278,448	-	-	41	1,379	6,895	136,655	17,961	75,484	
GREENWOOD	205,572	7,896	-	710	1,379	30,949	71,293	18,766	59,418	
HAMPTON	245,589	-	788	3,305	148	58,755	103,197	92,026	106,560	
HORRY	489,560	-	-	513	209	100,059	60,395	101,478	37,635	
JASPER	299,706	-	-	571	134	69,936	107,121	44,432	170,597	
KERSHAW	394,680	-	-	194	318	28,905	64,399	45,191	96,575	
LANCASTER	235,604	-	-	944	1,133	56,331	144,252	17,813	65,575	
LAURENS	305,701	19,663	-	1,215	50	15,519	72,675	4,332	25,155	
LEE	118,996	-	-	314	285	2,511	122,726	41,986	100,120	
LEXINGTON	267,942	50,782	26,400	912	597	41,883	55,314	3,799	47,081	
MCCORMICK	206,778	-	-	15	213	94,083	54,520	2,478	64,434	
MARION	215,743	-	-	70	57	45,110	85,098	26,830	15,016	
MARLBORO	172,181	-	-	-	599	54,836	102,520	9,445	93,198	
NEWBERRY	315,829	55,231	5,375	2,993	2,127	36,599	63,407	58,880	72,465	
OCONEE	280,294	74,125	1,175	6,249	395	187,424	187,424	10,391	127,067	
ORANGEBURG	369,300	-	818	9,808	65	1,638	43,710	61,635	91,793	
PICKENS	209,464	-	44,470	3,924	235	29,079	73,618	39,110	136,724	
RICHLAND	327,160	-	-	-	196	29,160	82,442	23,049	50,380	
SALUDA	187,758	2,531	-	6,131	196	19,543	119,041	14,555	109,892	
SPARTANBURG	271,227	-	622	32,124	2,065	23,901	104,828	14,555	54,906	
SUMTER	231,926	-	-	1,124	570	48,227	59,631	9,995	97,577	
UNION	272,352	56,749	-	90	83	88,094	185,169	43,284	72,145	
WILLIAMSBURG	388,860	-	-	16	150	20,048	118,911	36,274	84,047	
YORK	264,752	-	-	4,682	790	20,048	118,911	36,274	84,047	
TOTAL	12,502,906	578,724	321,860	167,098	23,145	2,242,580	4,493,503	1,275,678	3,400,318	

'NOT INCLUDING 82,516 ACRES OF FARMER OWNED AND MISCELLANEOUS PRIVATE LANDS LEASED TO FOREST INDUSTRY.'

TABLE 3. AREA OF COMMERCIAL FOREST LAND, BY FOREST TYPE GROUP AND COUNTY, 1978

COUNTY	ALL TYPE GROUPS	FOREST TYPE GROUP						OAK-ASH-COTTONWOOD	MAPLE-BEECH-BIRCH
		WHITE PINE HEMLOCK	SPRUCE-FIR	LONGLEAF-SLASH	LOBLOTT-SHORTLEAF	OAK PINE	OAK-HICKORY		
ABBEVILLE	219,883	--	--	142,556	83,725	59,758	66,095	10,305	--
AIKEN	488,900	--	--	142,556	117,211	64,078	107,616	50,887	5,952
ALLENDALE	158,504	--	--	22,356	63,667	7,710	6,562	18,490	15,198
ANDERSON	208,201	--	--	--	68,758	42,948	81,297	--	--
BAMBERG	148,440	--	--	21,269	30,508	18,254	29,432	48,877	--
BARNWELL	226,226	--	--	3,247	30,766	30,665	36,120	45,430	--
BEAUFORT	140,531	--	--	38,886	26,103	44,303	28,901	36,583	--
BERKELEY	577,407	--	--	21,402	267,607	59,621	63,463	155,760	11,072
CALHOUN	130,243	--	--	26,223	47,157	45,510	71,774	37,963	3,166
CHARLESTON	304,245	--	--	--	120,861	45,510	71,774	37,963	--
CHEROKEE	154,802	--	--	--	69,310	33,662	66,330	--	--
CHESTER	290,615	--	--	85,122	191,915	34,120	55,435	37,611	8,345
CHESTERFIELD	337,976	--	--	7,779	68,331	53,866	88,421	81,953	9,401
CLARENDON	217,215	--	--	59,968	56,997	17,172	54,173	127,316	--
COLLETON	476,687	--	--	16,382	155,837	46,755	56,760	29,804	--
DARLINGTON	169,683	--	--	18,382	126,161	31,821	63,008	33,744	--
DILLON	144,331	--	--	28,006	39,908	18,336	41,966	37,270	--
DORCHESTER	271,334	--	--	--	49,411	33,429	43,222	--	2,435
EDGEFIELD	234,637	--	--	7,135	120,954	46,866	66,951	86,772	2,116
FAIRFIELD	386,016	--	--	21,661	109,851	46,483	55,329	19,611	1,146
FLORENCE	287,280	--	--	--	131,509	51,861	38,624	105,569	--
GEORGETOWN	287,248	--	--	--	74,409	41,533	34,636	16,860	1,710
GREENVILLE	178,448	--	--	--	17,509	35,886	81,770	28,995	1,424
GREENWOOD	100,677	--	--	14,109	48,600	18,773	49,364	34,125	1,581
HAMPTON	145,654	--	--	3,814	80,447	35,886	81,770	28,995	2,422
HORRY	489,561	--	--	--	18,447	15,533	36,534	34,125	1,424
JASPER	99,716	--	--	--	41,011	40,093	109,561	--	9,452
KERSHAW	194,697	--	--	--	155,697	40,773	100,418	31,105	--
LANCASTER	335,604	--	--	--	70,031	40,773	67,022	15,460	--
LAURENS	307,604	--	--	--	33,651	40,773	40,169	5,647	10,109
LEXINGTON	116,641	--	--	4,435	47,442	37,435	64,489	44,447	2,536
MCCORMICK	66,779	--	--	--	10,031	3,690	13,074	--	--
MARION	110,747	--	--	4,435	31,153	3,690	44,489	--	--
MARLBORO	17,161	--	--	--	3,153	3,690	44,489	--	--
NEWBERRY	81,034	--	--	--	10,031	3,690	13,074	--	--
OCONEE	16,394	--	--	1,435	6,033	3,690	13,074	--	--
ORANGEBURG	65,500	--	--	--	6,033	3,690	13,074	--	--
PICKENS	90,424	--	--	4,435	48,884	4,435	59,455	44,035	34,849
RICHLAND	27,120	--	--	4,435	9,441	4,435	40,169	--	--
SALUDA	187,122	--	--	1,435	11,441	4,435	79,003	--	5,152
SPARTANBURG	31,122	--	--	1,435	27,640	4,435	55,329	67,314	7,930
SUMTER	31,122	--	--	1,435	27,640	4,435	55,329	67,314	1,134
UNION	77,332	--	--	3,814	22,110	4,435	21,465	14,460	--
WILLIAMSBURG	38,556	--	--	--	12,145	4,435	13,074	--	8,808
YORK	162,622	--	--	--	12,145	4,435	13,074	--	--
TOTAL	12,502,382	12,374	--	93,349	4,574,297	1,714,444	3,448,154	1,940,754	77,434

TABLE 4. AREA OF COMMERCIAL FOREST LAND, BY STAND SIZE CLASS
AND COUNTY, 1978

COUNTY	ALL STANDS	STAND-SIZE CLASS			NONSTOCKED AREAS
		SAWTIMBER	POLETIMBER	SAPLING- SEEDLING	
		ACRES			
ABBEVILLE	219,883	34,539	103,649	81,695	-
AIKEN	488,900	182,697	104,502	151,527	50,174
ALLENDALE	158,504	87,998	16,482	51,455	2,569
ANDERSON	208,201	96,590	96,639	14,972	-
BAMBERG	148,440	62,981	58,939	26,520	-
BARNWELL	226,228	109,160	64,196	44,413	8,459
BEAUFORT	140,531	90,670	32,039	17,822	-
BERKELEY	577,407	308,076	91,991	168,549	8,791
CALHOUN	130,243	62,552	33,745	30,860	3,086
CHARLESTON	304,245	185,635	60,216	58,394	-
CHEROKEE	154,802	28,132	70,007	52,293	4,370
CHESTER	290,619	70,004	112,248	108,367	-
CHESTERFIELD	337,976	114,055	85,242	115,405	23,274
CLARENDON	217,210	119,588	36,931	55,302	5,389
COLLETON	476,667	232,568	118,662	112,027	13,410
DARLINGTON	169,683	79,168	29,710	57,341	3,464
DILLON	144,331	58,984	40,979	41,676	2,692
DORCHESTER	271,334	158,966	53,469	58,899	-
EDGEFIELD	234,637	100,648	55,849	78,140	-
FAIRFIELD	386,015	129,871	160,962	91,127	4,055
FLORENCE	287,280	160,020	50,901	73,814	2,545
GEORGETOWN	374,248	176,510	66,980	125,277	5,481
GREENVILLE	278,448	127,837	110,372	40,239	-
GREENWOOD	205,672	79,901	44,499	73,535	7,737
HAMPTON	245,589	125,899	67,475	52,215	-
HORRY	489,560	266,661	115,528	96,912	10,459
JASPER	299,706	144,825	73,182	64,277	17,422
KERSHAW	394,680	118,105	107,767	158,803	10,005
LANCASTER	235,604	56,839	86,923	85,345	6,497
LAURENS	305,701	92,864	134,091	78,746	-
LEE	118,996	55,250	35,794	27,952	-
LEXINGTON	267,942	109,090	58,446	58,137	42,269
MCCORMICK	206,778	108,141	52,204	46,433	-
MARION	215,743	135,323	35,165	40,233	5,022
MARLBORO	172,181	61,998	45,669	62,140	2,374
NEWBERRY	315,829	159,789	117,858	34,755	3,427
OCONEE	280,294	124,346	104,481	51,467	-
ORANGEBURG	369,300	147,474	91,711	125,764	4,351
PICKENS	209,464	99,962	61,354	48,148	-
RICHLAND	327,160	155,113	92,586	72,244	7,217
SALUDA	187,758	76,373	73,905	37,480	-
SPARTANBURG	271,227	88,388	123,835	54,426	4,578
SUMTER	231,926	109,466	47,714	70,790	3,956
UNION	272,352	107,979	102,403	61,970	-
WILLIAMSBURG	388,860	191,274	81,156	106,986	9,444
YORK	264,752	61,937	144,374	58,441	-
TOTAL	12,502,906	5,454,246	3,552,830	3,223,313	272,517

TABLE 5. --AREA OF COMMERCIAL FOREST LAND, BY SITE CLASS AND COUNTY, 1978

COUNTY	ALL CLASSES	SITE CLASS				
		1	2	3	4	5
ACRES						
ABBEVILLE	219,883	--	--	27,031	161,648	31,204
AIKEN	488,900	--	--	48,749	224,981	215,170
ALLENDALE	158,504	--	--	23,157	124,201	11,146
ANDERSON	208,201	--	--	40,528	162,607	5,066
BAMBERG	148,440	--	--	33,538	92,543	22,359
BARNWELL	226,228	--	3,582	54,446	137,535	30,665
BEAUFORT	140,531	--	12,658	60,939	51,309	15,625
BERKELEY	577,407	2,482	47,768	184,566	295,242	47,349
CALHOUN	130,243	--	3,086	40,916	56,544	29,697
CHARLESTON	304,245	2,217	55,639	101,559	111,772	33,058
CHEROKEE	154,802	--	--	17,480	131,655	5,667
CHESTER	290,619	--	--	23,519	250,196	16,904
CHESTERFIELD	337,976	--	2,311	32,366	125,456	177,843
CLARENDON	217,210	--	--	76,453	111,422	29,335
COLLETON	476,667	6,033	17,544	136,034	280,631	36,425
DARLINGTON	169,683	--	--	58,339	83,339	28,005
DILLON	144,331	--	--	36,011	85,066	23,254
DORCHESTER	271,334	--	15,737	112,500	120,649	22,448
EDGEFIELD	234,637	2,455	--	44,278	168,312	19,592
FAIRFIELD	386,015	--	--	44,013	292,106	49,896
FLORENCE	287,280	--	7,636	77,994	174,257	27,393
GEORGETOWN	374,248	--	5,480	102,154	201,946	64,668
GREENVILLE	278,448	--	--	95,574	167,109	15,765
GREENWOOD	205,672	--	4,194	52,413	140,679	8,386
HAMPTON	245,589	3,127	3,127	43,212	159,925	36,198
HORRY	489,560	--	19,632	121,512	245,935	102,481
JASPER	299,706	4,003	14,716	100,728	148,115	32,144
KERSHAW	394,680	--	4,868	42,822	217,749	129,241
LANCASTER	235,604	--	--	15,697	182,914	36,993
LAURENS	305,701	--	6,555	51,411	232,748	14,987
LEE	118,996	--	--	14,594	65,271	39,131
LEXINGTON	267,942	--	--	6,460	135,207	126,275
MCCORMICK	206,778	--	--	46,762	138,333	21,683
MARION	215,743	--	5,021	82,489	110,627	17,606
MARLBORO	172,181	--	--	56,407	90,055	25,719
NEWBERRY	315,829	--	--	79,951	226,616	9,262
OCONEE	280,294	4,529	9,266	23,564	146,714	96,221
ORANGEBURG	369,300	--	--	137,954	205,935	25,411
PICKENS	209,464	--	--	24,747	145,378	39,339
RICHLAND	327,160	--	2,301	46,354	203,349	75,156
SALUDA	187,758	--	--	47,492	135,686	4,580
SPARTANBURG	271,227	--	9,156	44,447	179,442	38,182
SUMTER	231,926	--	6,451	76,656	126,542	22,277
UNION	272,352	--	5,421	57,935	187,223	21,773
WILLIAMSBURG	388,860	--	16,748	64,498	209,889	97,725
YORK	264,752	4,405	--	35,234	181,069	44,044
TOTAL	12,502,906	29,251	278,897	2,745,483	7,425,927	2,023,348

TABLE 6. - AREA OF COMMERCIAL FOREST LAND, BY STOCKING CLASSES OF GROWING-STOCK TREES, BY COUNTY, 1978

COUNTY	ALL CLASSES	STOCKING PERCENTAGE ¹				
		OVER 130	100-130	60-99	16.7-59	LESS THAN 16.7
ACRES						
ABBEVILLE	219,883	4,039	82,804	118,562	14,478	--
AIKEN	488,900	2,942	59,707	199,812	176,265	50,174
ALLENDALE	158,504	1,066	66,576	60,864	27,429	2,569
ANDERSON	208,201	5,162	121,866	60,566	20,607	--
BAMBERG	148,440	5,095	30,627	85,329	27,389	--
BARNWELL	226,228	6,696	56,687	86,748	67,638	8,459
BEAUFORT	140,531	7,512	30,574	51,217	51,228	--
BERKELEY	577,407	8,998	233,029	275,256	51,333	8,791
CALHOUN	130,243	--	44,167	52,130	30,860	3,086
CHARLESTON	304,245	19,934	99,620	142,201	42,490	--
CHEROKEE	154,802	--	52,295	63,178	34,959	4,370
CHESTER	290,619	5,977	142,223	117,902	24,517	--
CHESTERFIELD	337,976	10,739	48,777	120,974	134,212	23,274
CLARENDON	217,210	15,096	55,657	129,895	11,173	5,389
COLLETON	476,667	23,575	171,246	209,775	58,661	13,410
DARLINGTON	169,683	--	30,286	89,590	46,343	3,464
DILLON	144,331	5,245	40,974	77,132	18,288	2,692
DORCHESTER	271,334	5,594	94,467	131,896	39,377	--
EDGEFIELD	234,637	--	73,362	129,927	31,348	--
FAIRFIELD	386,015	--	164,072	180,247	37,641	4,055
FLORENCE	287,280	9,579	82,176	152,842	40,138	2,545
GEORGETOWN	374,248	11,150	179,909	142,978	34,730	5,481
GREENVILLE	278,448	5,256	57,816	180,354	35,022	--
GREENWOOD	205,672	12,580	86,984	81,598	16,773	7,737
HAMPTON	245,589	15,066	109,169	102,589	18,765	--
HORRY	489,560	19,886	115,283	235,939	107,993	10,459
JASPER	299,706	4,002	98,612	137,462	42,208	17,422
KERSHAW	394,680	--	100,139	176,903	107,633	10,005
LANCASTER	235,604	9,200	87,258	117,940	14,709	6,497
LAURENS	305,701	4,697	142,631	140,889	17,484	--
LEE	118,996	--	44,181	54,941	19,874	--
LEXINGTON	267,942	3,229	31,579	93,657	97,208	42,269
MCCORMICK	206,778	--	91,668	95,772	19,338	--
MARION	215,743	10,171	59,945	97,895	42,710	5,022
MARLBORO	172,181	--	50,548	83,589	35,670	2,374
NEWBERRY	315,829	26,094	151,669	98,592	36,047	3,427
OCONEE	280,294	--	50,028	149,675	80,591	--
ORANGEBURG	369,300	15,522	97,174	179,162	73,091	4,351
PICKENS	209,464	2,079	50,598	134,401	22,386	--
RICHLAND	327,160	2,301	70,912	151,182	95,548	7,217
SALUDA	187,758	18,796	90,393	69,129	9,440	--
SPARTANBURG	271,227	4,578	118,739	116,530	26,802	4,578
SUMTER	231,926	1,461	69,937	120,914	35,658	3,956
UNION	272,352	7,671	116,801	108,677	39,203	--
WILLIAMSBURG	388,860	7,215	125,657	191,692	54,852	9,444
YORK	264,752	4,405	88,008	137,104	35,235	--
TOTAL	12,502,906	322,608	4,066,830	5,735,607	2,105,344	272,517

SEE STOCKING STANDARDS ON PAGE 12.

TABLE 7. --VOLUME OF SAWTIMBER AND GROWING STOCK ON COMMERCIAL FOREST LAND, BY SPECIES GROUP AND COUNTY, 1978

COUNTY	SAWTIMBER			GROWING STOCK				HARD HARDWOOD		
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE		OTHER SOFTWOOD	SOFT HARDWOOD
THOUSAND BOARD FEET										
ABBEVILLE	689,320	302,384	5,793	215,406	165,737	257,180	97,983	5,283	75,864	78,050
AIKEN	1,343,079	866,739	12,763	318,101	145,476	412,087	252,355	3,114	98,209	58,409
ALLENDALE	870,083	454,096	40,969	194,573	180,445	248,762	127,794	10,417	57,954	52,597
ANDERSON	779,065	314,192	8,373	193,176	263,324	307,461	127,964	2,173	59,229	118,095
BARNWELL	673,813	300,586	68,892	217,015	87,320	218,776	96,358	17,112	68,215	37,091
BEAUFORT	828,715	462,714	29,845	208,119	128,037	274,695	134,917	10,288	85,672	43,818
BERKELEY	874,086	437,020	5,055	248,052	123,959	228,677	121,992	1,121	67,475	38,089
BERKELEY	3,317,555	2,055,314	129,314	557,252	575,675	854,590	486,448	33,635	188,538	145,969
CALHOUN	724,599	405,861	9,645	221,220	87,873	202,718	104,399	2,499	66,806	29,014
CHARLESTON	2,050,810	1,402,742	106,742	313,805	227,521	549,600	326,790	26,659	117,694	78,208
CHESTER	354,100	196,010	1,706	44,428	111,956	158,699	77,652	4,544	19,937	60,451
CHESTER	730,848	460,387	4,120	106,134	160,200	293,323	178,326	4,544	48,852	61,901
CHESTERFIELD	926,282	496,923		318,799	110,560	295,708	148,310	32,578	100,016	47,178
CLARENDON	1,368,597	453,101	101,949	443,809	341,832	394,458	109,696	32,578	159,109	93,075
COLLETON	2,363,972	1,248,851	54,753	545,398	467,774	731,037	356,163	25,606	204,373	143,895
DILLON	811,618	387,956	163,884	240,991	127,918	215,025	86,413	10,962	68,222	49,428
DORCHESTER	1,585,779	676,871	5,688	316,026	100,940	463,973	220,365	9,168	110,055	42,923
EDGEFIELD	1,433,246	1,154,416	106,729	120,162	105,377	399,078	290,593	37,834	137,363	108,546
FAIRFIELD	1,107,035	884,473	96,478	170,579	105,752	415,502	300,493	4,420	58,489	52,100
FLORENCE	1,960,511	1,046,568	96,478	472,425	258,834	558,175	250,583	23,302	139,864	83,675
GEORGETOWN	1,816,176	900,858	8,600	514,216	453,518	558,997	235,523	1,954	89,732	162,186
GREENVILLE	989,120	291,772	8,046	335,140	150,511	385,711	132,523	1,031	57,530	47,583
GREENWOOD	1,217,978	888,031	123,167	450,505	480,527	480,891	161,868	29,986	156,235	134,452
HAMPTON	1,581,062	523,263	201,074	971,297	409,557	796,755	314,808	49,768	314,727	117,452
HORRY	2,782,756	1,200,833	147,007	399,750	390,860	424,890	187,269	33,950	100,120	103,541
JASPER	1,452,082	613,665	11,667	239,016	106,800	335,372	112,803	4,252	80,511	48,537
KERSHAW	1,057,291	685,455	11,667	359,016	106,800	335,372	113,948	4,252	94,623	68,895
LANCASTER	516,292	224,071	17,080	104,076	156,234	201,295	100,243	5,307	58,209	23,609
LAURENS	1,037,430	549,711	1,429	104,106	253,443	401,295	155,841	3,314	34,241	25,609
LEE	410,785	177,122	1,429	177,088	154,177	199,973	183,726	1,334	34,241	25,609
LEXINGTON	947,213	712,526	4,131	133,020	107,844	204,906	163,503	2,907	40,822	43,650
MCCORMICK	1,109,430	864,504	4,131	133,941	107,844	204,906	115,765	30,480	102,505	78,061
MARLBORO	1,713,887	509,769	145,912	289,979	107,844	435,702	41,785	9,033	212,505	36,366
MARLBORO	557,868	134,744	40,834	342,055	171,571	183,492	389,855	6,097	31,624	21,855
NEWBERRY	1,721,235	324,919	140,834	342,055	171,571	183,492	179,229	31,167	29,713	122,812
OCONEE	904,038	409,769	11,667	78,680	345,777	520,411	164,855	7,437	127,882	51,274
ORANGEBURG	1,623,266	619,749	11,667	78,680	345,777	520,411	164,855	7,437	127,882	51,274
PICKENS	1,335,079	171,108	4,131	133,941	267,237	438,702	120,663	1,437	127,882	51,274
RICHLAND	899,504	601,608	7,444	446,601	142,294	380,277	120,663	1,437	127,882	51,274
SALUDA	931,508	445,957	6,503	205,365	292,790	362,137	117,571	1,787	127,882	51,274
SPARTANBURG	1,201,530	492,577	47,868	189,365	171,790	362,137	117,571	1,787	127,882	51,274
SUMTER	1,104,002	478,134	47,868	189,365	171,790	362,137	117,571	1,787	127,882	51,274
UNION	1,714,016	905,644	50,491	228,528	344,343	495,491	157,805	4,021	15,055	15,702
WILLIAMSBURG	664,710	239,846	5,340	121,277	151,627	310,715	116,645	4,615	79,873	99,546
YORK	55,568,059	29,073,228	2,245,588	13,612,246	10,636,997	17,180,374	8,353,792	53,324	4,569,370	3,683,882
TOTAL	55,568,059	29,073,228	2,245,588	13,612,246	10,636,997	17,180,374	8,353,792	53,324	4,569,370	3,683,882

FACTORS FOR CONVERTING TO CORDS ARE SHOWN ON PAGE 12.

FACTORS FOR CONVERTING TO CORDS ARE SHOWN ON PAGE 12.

TABLE 8. NET ANNUAL GROWTH OF SAWTIMBER AND GROWING STOCK ON COMMERCIAL FOREST LAND, BY SPECIES GROUP AND COUNTY, 1977

COUNTY	SAWMILLER			GROWING STOCK			HARDWOOD	HARDWOOD		
	A.L. SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARDWOOD	A.L. SPECIES			PINE	OTHER SOFTWOOD
THOUSAND BOARD FEET										
ABBEVILLE	46,092	23,611	229	12,404	9,848	15,139	17,723	57	4,154	3,537
AIKEN	94,982	75,716	322	11,583	9,760	15,139	18,016	184	3,085	2,900
ALLENDALE	60,355	42,260	815	17,583	17,696	14,610	10,010	185	1,580	1,865
ANDERSON	55,658	27,830	155	10,820	17,807	18,094	10,010	185	1,580	1,999
BAMBERG	49,190	31,090	1,564	13,235	15,807	18,094	10,010	185	1,580	1,691
BARNWELL	61,253	39,669	1,023	13,235	15,807	18,094	10,010	185	1,580	1,647
BEAUFORT	47,088	33,109	1,128	13,235	15,807	18,094	10,010	185	1,580	1,404
BERKELEY	174,209	122,898	3,346	13,235	15,807	18,094	10,010	185	1,580	1,404
CALHOUN	46,075	30,595	264	13,235	15,807	18,094	10,010	185	1,580	1,404
CHARLESTON	123,637	91,399	3,335	13,235	15,807	18,094	10,010	185	1,580	1,404
CHEROKEE	29,132	14,998	248	13,235	15,807	18,094	10,010	185	1,580	1,404
CHESTER	56,971	43,120	1,188	13,235	15,807	18,094	10,010	185	1,580	1,404
CHESTERFIELD	55,570	36,325	1,188	13,235	15,807	18,094	10,010	185	1,580	1,404
CLARENDON	73,185	27,535	1,188	13,235	15,807	18,094	10,010	185	1,580	1,404
COLLETON	159,887	106,064	1,188	13,235	15,807	18,094	10,010	185	1,580	1,404
DARLINGTON	42,502	24,540	1,015	13,235	15,807	18,094	10,010	185	1,580	1,404
DILLON	37,212	15,283	1,714	13,235	15,807	18,094	10,010	185	1,580	1,404
DORCHESTER	36,211	58,916	1,188	13,235	15,807	18,094	10,010	185	1,580	1,404
EDGEFIELD	87,734	71,455	1,188	13,235	15,807	18,094	10,010	185	1,580	1,404
FAIRFIELD	93,405	78,404	1,188	13,235	15,807	18,094	10,010	185	1,580	1,404
FLORENCE	102,976	64,344	1,188	13,235	15,807	18,094	10,010	185	1,580	1,404
GEORGETOWN	101,426	67,319	1,188	13,235	15,807	18,094	10,010	185	1,580	1,404
GREENVILLE	70,114	33,319	1,188	13,235	15,807	18,094	10,010	185	1,580	1,404
GREENWOOD	84,159	68,724	1,188	13,235	15,807	18,094	10,010	185	1,580	1,404
HAMPTON	93,990	48,168	1,188	13,235	15,807	18,094	10,010	185	1,580	1,404
HORRY	151,229	83,249	1,188	13,235	15,807	18,094	10,010	185	1,580	1,404
JASPER	70,202	53,424	1,188	13,235	15,807	18,094	10,010	185	1,580	1,404
KERSHAW	46,863	53,859	1,188	13,235	15,807	18,094	10,010	185	1,580	1,404
LANCASTER	84,501	54,204	1,188	13,235	15,807	18,094	10,010	185	1,580	1,404
LAURENS	23,702	12,891	1,188	13,235	15,807	18,094	10,010	185	1,580	1,404
LEE	62,714	50,916	1,188	13,235	15,807	18,094	10,010	185	1,580	1,404
LEXINGTON	64,581	52,875	1,188	13,235	15,807	18,094	10,010	185	1,580	1,404
MCCORMICK	75,491	28,811	1,188	13,235	15,807	18,094	10,010	185	1,580	1,404
MARLBORO	40,195	14,884	1,188	13,235	15,807	18,094	10,010	185	1,580	1,404
NEWBERRY	137,765	103,699	1,188	13,235	15,807	18,094	10,010	185	1,580	1,404
OCONEE	57,258	27,307	1,188	13,235	15,807	18,094	10,010	185	1,580	1,404
ORANGEBURG	106,476	55,066	1,188	13,235	15,807	18,094	10,010	185	1,580	1,404
PICKENS	50,487	14,491	1,188	13,235	15,807	18,094	10,010	185	1,580	1,404
RICHLAND	80,378	49,566	1,188	13,235	15,807	18,094	10,010	185	1,580	1,404
SALUDA	76,106	65,897	1,188	13,235	15,807	18,094	10,010	185	1,580	1,404
SPARTANBURG	74,244	35,097	1,188	13,235	15,807	18,094	10,010	185	1,580	1,404
SUMTER	61,583	30,883	1,188	13,235	15,807	18,094	10,010	185	1,580	1,404
UNION	79,347	47,584	1,188	13,235	15,807	18,094	10,010	185	1,580	1,404
WILLIAMSBURG	108,303	69,201	1,188	13,235	15,807	18,094	10,010	185	1,580	1,404
YORK	57,237	26,914	1,188	13,235	15,807	18,094	10,010	185	1,580	1,404
TOTAL	3,529,223	2,237,806	69,683	647,412	574,322	963,345	599,841	17,908	181,104	164,492

TABLE 10. AREA OF COMMERCIAL FOREST LAND, BY FOREST TYPE AND OWNERSHIP CLASS, 1978

FOREST TYPE	ALL OWNERSHIPS	OWNERSHIP CLASS				
		NATIONAL FOREST	OTHER PUBLIC	FOREST INDUSTRY	FARMER	MISC. PRIVATE
- - - - - ACRES						
SOFTWOOD TYPES:						
WHITE PINE-HEMLOCK	13,374	4,632	--	--	--	8,742
SPRUCE-FIR	--	--	--	--	--	--
LONGLEAF PINE	471,112	20,024	96,468	34,494	121,794	198,332
SLASH PINE	512,137	2,482	58,863	158,291	114,723	177,778
LOBLOLLY PINE	3,403,718	266,979	117,822	829,375	1,035,155	1,154,387
SHORTLEAF PINE	655,877	31,539	22,154	63,193	236,043	302,948
VIRGINIA PINE	178,021	4,632	--	3,613	90,148	79,628
SAND PINE	--	--	--	--	--	--
EASTERN REDCEDAR	22,764	--	--	2,864	17,600	2,300
POND PINE	301,549	15,224	10,102	78,250	94,092	103,881
SPRUCE PINE	7,735	--	724	7,011	--	--
PITCH PINE	4,633	4,633	--	--	--	--
TABLE-MOUNTAIN PINE	--	--	--	--	--	--
TOTAL	5,570,920	350,145	306,133	1,177,091	1,709,555	2,027,996
HARDWOOD TYPES:						
OAK-PINE	1,718,544	70,391	58,662	217,780	697,248	674,463
OAK-HICKORY	2,694,392	80,571	68,127	332,448	1,150,352	1,062,894
CHESTNUT OAK	4,405	--	--	--	--	4,405
SOUTHERN SCRUB OAK	246,457	--	24,524	15,086	83,693	123,154
OAK-GUM-CYPRESS	1,990,754	60,401	47,697	437,321	784,133	661,202
ELM-ASH-COTTONWOOD	277,434	17,216	6,960	62,854	68,522	121,882
MAPLE-BEECH-BIRCH	--	--	--	--	--	--
TOTAL	6,931,986	228,579	205,970	1,065,489	2,783,948	2,648,000
ALL TYPES	12,502,906	578,724	512,103	2,242,580	4,493,503	4,675,996

TABLE 11. AREA OF COMMERCIAL FOREST LAND, BY OWNERSHIP AND STOCKING CLASSES OF GROWING-STOCK TREES, 1978

OWNERSHIP CLASSES	ALL CLASSES	STOCKING PERCENTAGE ¹				
		OVER 130	100-130	60-99	16.7-59	LESS THAN 16.7
-- -- -- ACRES -- -- --						
NATIONAL FOREST	578,724	10,427	260,219	263,389	44,689	--
OTHER PUBLIC	512,103	9,176	150,119	208,086	131,081	13,641
FOREST INDUSTRY	2,242,580	80,789	958,625	855,669	292,174	55,323
FARMER	4,493,503	64,990	1,235,628	2,244,540	857,481	90,864
MISC. PRIVATE	4,675,996	157,226	1,462,239	2,163,923	779,919	112,689
ALL OWNERSHIPS	12,502,906	322,608	4,066,830	5,735,607	2,105,344	272,517

SEE STOCKING STANDARDS ON PAGE 12.

TABLE 12. --VOLUME OF TIMBER ON COMMERCIAL FOREST LAND, BY CLASS AND SPECIES GROUP, 1978

CLASS OF TIMBER	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
- - - - - THOUSAND CUBIC FEET - - - - -					
SAWTIMBER TREES:					
SAW-LOG PORTION	10,825,859	5,639,640	446,097	2,682,380	2,057,742
UPPER-STEM PORTION	1,031,188	379,186	29,994	351,987	270,021
TOTAL	11,857,047	6,018,826	476,091	3,034,367	2,327,763
POLETIMBER TREES	5,323,328	2,334,966	97,233	1,535,010	1,356,119
ALL GROWING-STOCK TREES	17,180,375	8,353,792	573,324	4,569,377	3,683,882
ROUGH TREES:					
SAWTIMBER-SIZE TREES	803,728	87,173	10,106	401,083	305,366
POLETIMBER-SIZE TREES	1,115,948	122,613	8,842	501,953	482,540
TOTAL	1,919,676	209,786	18,948	903,036	787,906
ROTTEN TREES:					
SAWTIMBER-SIZE TREES	223,213	1,597	15,325	131,741	74,550
POLETIMBER-SIZE TREES	27,906	156	390	16,628	10,732
TOTAL	251,119	1,753	15,715	148,369	85,282
SALVABLE DEAD TREES:					
SAWTIMBER-SIZE TREES	25,889	20,307	619	2,775	2,188
POLETIMBER-SIZE TREES	19,063	15,266	609	1,455	1,733
TOTAL	44,952	35,573	1,228	4,230	3,921
TOTAL, ALL TIMBER	19,396,122	8,600,904	609,215	5,625,012	4,560,991

TABLE 13. NUMBER OF GROWING STOCK TREES ON COMMERCIAL FOREST LAND, BY SPECIES AND DIAMETER CLASS, 1978

SPECIES	ALL CLASSES	DIAMETER CLASS (INCHES AT BREAST HEIGHT)										29.0 AND LARGER
		5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9		
THOUSAND TREES												
SOFTWOOD:												
LONGLEAF PINE	59,372	17,945	14,256	11,348	8,000	4,802	2,104	592	157	66	2	
SLASH PINE	88,228	45,788	25,910	10,315	4,032	1,155	681	251	55	41	--	
SHORTLEAF PINE	144,250	66,920	41,931	21,008	9,218	3,283	1,318	456	62	52	2	
LOBLOLLY PINE	485,132	186,867	121,661	74,394	46,196	27,128	15,118	7,616	3,347	2,705	100	
POND PINE	461,378	177,035	111,873	73,802	46,196	27,128	15,118	7,616	3,347	2,705	--	
VIRGINIA PINE	35,209	15,838	9,939	7,302	4,803	2,781	1,367	584	15	13	--	
PITCH PINE	660	123	174	152	156	1,015	1,234	131	19	--	--	
TABLE MOUNTAIN PINE	--	--	--	--	--	--	--	--	--	--	--	
SPRUCE PINE	1,915	380	342	396	293	187	131	70	70	46	--	
SAND PINE	--	--	--	--	--	--	--	--	--	--	--	
EASTERN WHITE PINE	708	--	198	87	96	83	75	51	24	86	8	
EASTERN HEMLOCK	605	256	149	70	65	32	12	--	--	21	--	
SPRUCE AND FIR	--	--	--	--	--	--	--	--	--	--	--	
BALDCYPRESS	15,078	3,198	2,509	2,503	1,803	1,772	1,304	784	523	620	62	
PONDYCYPRESS	11,227	3,547	2,570	2,203	1,122	839	1,470	186	155	128	7	
CEDARS	14,536	9,614	3,191	1,319	359	35	43	36	23	16	--	
TOTAL SOFTWOODS	903,395	367,511	234,703	136,928	78,536	43,135	22,868	10,878	4,710	3,945	181	
HARDWOOD:												
SELECT WHITE OAKS	51,342	20,004	12,237	7,942	4,538	2,957	1,856	892	395	473	48	
SELECT RED OAKS	12,626	3,828	2,547	2,016	1,516	1,122	786	412	136	232	31	
CHESTNUT OAK	4,341	1,221	941	981	572	290	150	116	8	62	--	
OTHER WHITE OAKS	22,602	10,305	4,655	3,129	2,017	1,070	531	255	214	340	86	
OTHER RED OAKS	156,633	65,768	37,681	20,869	12,935	7,539	5,014	2,686	1,689	2,105	347	
HICKORY	36,568	15,858	9,150	4,313	2,355	1,965	1,058	591	333	379	66	
YELLOW BIRCH	--	--	--	213	22	--	--	--	--	--	--	
HARD MAPLE	783	454	39	--	--	--	--	--	--	--	--	
SOFT MAPLE	44,356	20,433	9,514	6,086	3,367	2,221	1,307	664	395	350	19	
BEECH	1,896	447	377	293	355	138	85	53	37	108	3	
SWEETGUM	150,453	66,743	35,232	19,963	12,611	7,056	4,184	2,363	1,120	1,094	87	
TUPELO AND BLACKGUM	101,766	29,475	22,429	15,455	13,060	9,341	5,462	3,058	1,567	1,744	177	
ASH	21,280	8,409	4,131	3,544	2,016	1,527	706	476	230	217	24	
COTTONWOOD	2,542	501	474	372	461	206	176	144	51	104	53	
BASSWOOD	133	88	--	--	45	--	--	--	--	--	--	
YELLOW-POPLAR	34,655	10,065	6,764	5,708	4,198	3,023	2,009	1,328	837	682	41	
BAY AND MAGNOLIA	2,502	1,466	539	2,08	1,37	58	59	5	10	16	4	
BLACK CHERRY	2,744	1,820	711	154	50	9	--	--	--	--	--	
BLACK WALNUT	2,488	201	24	104	47	26	25	40	5	16	--	
SYCAMORE	2,076	72	420	196	483	399	111	106	104	172	13	
BLACK LOCUST	409	173	174	30	24	--	--	8	--	--	--	
ELM	17,687	8,589	3,952	2,065	1,477	634	421	253	137	126	32	
OTHER EASTERN HARDWOODS	15,499	7,051	3,713	1,784	1,249	714	472	216	159	139	2	
TOTAL HARDWOODS	683,483	272,971	155,704	95,426	64,135	40,323	24,423	13,666	7,434	8,368	1,033	
ALL SPECIES	1,586,878	640,482	390,407	232,354	142,671	83,458	47,291	24,544	12,144	12,313	1,214	

TABLE 14. -- VOLUME OF ALL LIVE TREES ON COMMERCIAL FOREST LAND, BY SPECIES AND DIAMETER CLASS, 1978

SPECIES	ALL CLASSES	DIAMETER CLASS (INCHES AT BREAST HEIGHT)										21.0-28.9	29.0 AND LARGER
		5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9				
THOUSAND CUBIC FEET													
SOFTWOOD:													
LONGLEAF PINE	699,227	53,195	95,633	138,532	154,386	132,722	76,651	32,785	8,992	32,785	5,708	623	
SLASH PINE	583,840	128,845	174,013	120,751	78,044	34,382	27,535	12,494	3,738	12,494	4,038	--	
SHORTLEAF PINE	1,041,055	175,521	267,248	245,781	174,401	93,955	51,963	23,024	4,199	23,024	4,585	378	
LOBLOLLY PINE	5,442,108	508,673	801,060	904,416	901,960	779,949	610,661	405,343	234,279	405,343	276,384	19,383	
POND PINE	479,421	45,739	77,076	88,522	89,016	74,231	48,363	27,342	16,666	27,342	12,466	--	
VIRGINIA PINE	272,243	50,849	72,019	67,909	41,695	25,278	7,445	5,156	884	5,156	1,008	--	
PITCH PINE	9,047	628	1,055	1,801	3,359	566	702	936	--	--	--	--	
TABLE-MOUNTAIN PINE	--	--	--	--	--	--	--	--	--	--	--	--	
SPRUCE PINE	38,390	1,963	4,218	4,975	6,052	4,639	4,631	3,275	4,471	3,275	4,166	--	
SAND PINE	23,448	--	--	1,098	1,686	2,173	2,693	2,344	1,551	2,344	9,828	993	
EASTERN WHITE PINE	7,135	588	960	730	979	1,011	454	--	--	--	2,413	--	
EASTERN HEMLOCK	--	--	--	--	--	--	--	--	--	--	--	--	
SPRUCE AND FIR	--	--	--	--	--	--	--	--	--	--	--	--	
BALDCYPRESS	372,015	13,248	21,404	37,654	39,727	52,829	52,145	38,686	33,909	38,686	60,688	21,725	
PONDYCYPRESS	139,972	12,486	16,775	26,134	19,567	21,219	15,787	8,073	8,223	8,073	9,563	2,145	
CEDARS	65,417	23,249	16,673	13,291	5,322	1,098	1,274	1,439	1,508	1,439	1,563	--	
TOTAL SOFTWOODS	9,173,318	1,014,984	1,549,216	1,651,594	1,516,194	1,224,052	900,304	560,897	318,420	560,897	392,410	45,247	
HARDWOOD:													
SELECT WHITE OAKS	629,929	68,301	86,291	97,650	88,703	82,271	68,214	47,019	28,874	47,019	49,555	13,051	
SELECT RED OAKS	222,823	19,099	20,292	26,692	32,253	34,313	29,927	22,488	8,985	22,488	23,237	7,537	
CHESTNUT OAK	70,044	5,873	8,181	11,932	12,034	9,387	7,316	6,674	824	6,674	6,546	1,277	
OTHER WHITE OAKS	351,347	38,477	37,188	40,706	43,293	35,975	24,532	22,134	22,355	22,134	53,245	33,442	
OTHER RED OAKS	2,025,754	245,721	275,541	272,128	264,188	219,233	196,493	141,849	115,386	141,849	218,359	86,856	
HICKORY	445,253	45,736	59,118	53,791	57,935	58,383	45,735	33,878	23,773	33,878	45,750	17,154	
YELLOW BIRCH	--	--	--	--	--	--	--	--	--	--	--	--	
HARD MAPLE	11,686	2,957	1,032	3,122	1,092	1,170	575	--	503	--	1,235	--	
SOFT MAPLE	735,562	118,585	111,891	112,177	96,737	85,423	70,462	45,040	37,163	45,040	48,381	10,703	
BEECH	48,962	2,384	3,305	5,027	7,483	4,938	4,221	3,229	3,703	3,229	13,493	1,184	
SWEETGUM	814,882	261,363	261,363	285,071	266,572	277,033	184,097	136,212	85,066	136,212	125,686	21,615	
TUPELO AND BLACKGUM	1,899,624	137,713	158,791	249,376	309,906	292,674	228,431	162,481	104,526	162,481	173,303	42,423	
ASH	367,931	41,718	45,430	62,955	54,661	52,949	31,237	29,217	17,130	29,217	26,320	6,254	
COTTONWOOD	73,504	2,593	4,436	5,408	9,623	6,357	7,531	8,152	4,001	8,152	11,375	14,129	
BASSWOOD	11,588	70	96	--	782	--	--	--	--	--	--	--	
YELLOW POPLAR	622,006	35,982	50,434	73,907	85,008	89,277	80,413	70,711	55,046	70,711	70,282	10,946	
BAY AND MAGNOLIA	32,739	9,421	8,406	3,616	3,496	2,381	2,540	474	717	474	1,600	2,088	
BLACK CHERRY	12,454	12,454	10,842	6,290	2,752	763	322	--	--	--	284	--	
BLACK WALNUT	12,710	1,679	541	2,300	1,300	703	1,299	2,591	318	2,591	1,979	--	
SYCAMORE	70,454	1,410	3,843	4,297	10,354	13,073	4,628	6,547	7,593	6,547	15,938	2,771	
BLACK LOCUST	5,508	1,318	2,141	1,001	300	--	334	394	--	--	--	--	
ELM	229,981	33,632	34,338	33,724	37,963	22,256	18,938	15,004	9,913	15,004	16,454	7,737	
OTHER EASTERN HARDWOODS	473,753	143,444	96,948	70,760	50,547	32,304	26,068	14,381	14,719	14,381	18,647	3,809	
TOTAL HARDWOODS	10,177,852	1,164,494	1,317,547	1,420,941	1,456,982	1,270,863	1,033,313	768,475	540,592	768,475	921,669	282,976	
ALL SPECIES	19,351,170	2,179,478	2,866,763	3,072,535	2,973,176	2,494,915	1,933,617	1,329,372	859,012	1,329,372	1,314,079	328,223	

TABLE 15. -- VOLUME OF GROWING STOCK ON COMMERCIAL FOREST LAND, BY SPECIES AND DIAMETER CLASS, 1978

SPECIES	ALL CLASSES	DIAMETER CLASS -- INCHES AT BREAST HEIGHT										19.0- 20.9	21.0- 28.9	29.0 AND LARGER
		5.0 6.9	7.0 8.9	9.0 10.9	11.0 12.9	13.0 14.9	15.0 16.9	17.0 18.9						
THOUSAND CUBIC FEET														
SOFTWOOD:														
LONGLEAF PINE	694,977	52,545	94,159	137,984	153,871	142,312	76,472	32,785	8,856	5,708	285			
SLASH PINE	564,197	120,653	165,855	118,931	76,961	33,992	27,533	12,494	3,738	4,038				
SHORTLEAF PINE	1,016,279	169,296	259,559	240,875	170,638	92,625	51,634	22,897	2,792	4,585	378			
LOBLOLLY PINE	5,316,352	474,296	564,943	876,451	889,811	775,232	606,318	404,355	233,400	273,174	19,383			
POND PINE	461,605	41,544	73,223	84,639	86,300	21,862	48,033	27,159	5,656	12,203				
VIRGINIA PINE	257,029	47,274	66,249	63,490	41,007	24,466	7,445	1,153	884	1,008				
PITCH PINE	7,849	354	1,055	1,801	2,791	566	346	932						
TABLE-MOUNTAIN PINE														
SPRUCE PINE	35,494	1,079	2,827	4,761	5,840	4,444	4,631	3,276	4,471	4,166				
SAND PINE														
EASTERN WHITE PINE	23,236		1,082	1,098	1,686	2,173	2,693	2,344	1,551	9,616	993			
EASTERN HEMLOCK	7,135	588	960	730	979	1,011	454			2,413				
SPRUCE AND FIR														
BALD CYPRESS	349,293	11,027	19,696	35,486	37,636	51,904	50,559	38,307	33,423	58,140	13,116			
POND CYPRESS	133,964	11,107	16,039	25,525	19,195	20,630	14,917	7,795	7,744	9,444	1,568			
CEDARS	59,696	21,408	15,326	12,215	5,077	654	1,274	1,270	1,349	1,123				
TOTAL SOFTWOODS	8,927,116	951,171	1,481,028	1,503,955	1,491,792	1,211,871	892,310	558,773	314,874	385,618	35,723			
HARDWOOD:														
SELECT WHITE OAKS	585,406	58,350	78,253	91,817	84,175	80,018	67,075	43,699	25,272	45,372	11,375			
SELECT RED OAKS	203,276	12,775	17,329	25,442	28,175	32,159	29,025	21,551	9,822	22,538	5,460			
CHESTNUT OAK	53,116	3,089	6,257	10,681	9,461	7,349	5,230	5,655	396	4,998				
OTHER WHITE OAKS	234,705	27,039	25,194	31,465	31,969	25,390	17,840	11,955	13,585	31,724	18,544			
OTHER RED OAKS	1,774,432	194,580	235,185	237,002	235,660	197,971	181,282	127,634	105,039	191,234	67,845			
HICKORY	400,630	41,875	53,623	47,265	53,506	53,069	41,995	31,091	22,481	39,991	15,733			
YELLOW BIRCH														
HARD MAPLE	8,341	1,442	485	2,752	394	1,170	575		503	1,020				
SOFT MAPLE	461,436	66,925	63,913	72,415	61,853	58,663	47,814	31,870	23,801	31,000	3,192			
BEECH	37,962	1,247	2,076	3,656	6,571	3,804	3,261	2,815	2,677	11,414	441			
SWEETGUM	1,621,784	161,685	223,517	250,170	257,734	207,771	175,785	129,499	80,738	115,933	18,952			
TOUPELO AND BLACKGUM	1,485,701	186,852	144,213	186,452	244,076	243,228	193,919	137,943	87,960	135,091	25,952			
ASH	284,323	26,826	29,136	46,492	42,095	44,676	28,333	24,951	15,160	22,379	4,477			
COTTONWOOD	69,018	1,688	3,069	5,072	9,346	5,933	7,129	7,757	3,784	11,375	13,865			
BASSWOOD	1,042	260			782									
YELLOW-POPLAR	589,935	30,498	46,854	70,562	82,321	85,885	78,577	68,437	54,408	63,148	9,245			
BAY AND MAGNOLIA	18,378	4,241	3,434	2,340	2,510	1,249	2,029	178	557	1,140	700			
BLACK CHERRY	12,585	5,140	4,679	1,589	2,975	1,202								
BLACK WALNUT	8,756	599	1,133	1,155	725	703	1,160	2,315	318	1,632				
SYCAMORE	62,474	2,961	2,812	3,259	9,524	11,684	4,115	5,783	6,926	15,521	2,554			
BLACK LOCUST	2,246	473	788	291	300			394						
ELM	178,676	22,335	24,933	24,328	28,960	17,876	17,471	13,732	9,571	13,295	6,175			
OTHER EASTERN HARDWOODS	159,035	18,224	22,998	20,772	23,248	19,389	17,958	9,996	10,431	15,479	540			
TOTAL HARDWOODS	8,253,259	766,239	989,887	1,135,003	1,214,360	1,098,179	920,573	677,255	472,429	774,284	205,050			
ALL SPECIES	17,180,375	1,717,410	2,470,915	2,738,959	2,706,152	2,310,050	1,812,883	1,236,028	787,303	1,159,902	240,773			

TABLE 16. --- VOLUME OF SAWTIMBER ON COMMERCIAL FOREST LAND, BY SPECIES AND DIAMETER CLASS, 1978

SPECIES	ALL CLASSES	DIAMETER CLASS (INCHES AT BREAST HEIGHT)							21.0-28.9	29.0 AND LARGER
		9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9			
THOUSAND BOARD FEET										
SOFTWOOD:										
LONGLEAF PINE	2,743,173	558,328	740,940	708,620	439,610	199,296	56,089	38,236	2,054	
SLASH PINE	1,248,606	438,761	351,590	176,738	155,698	75,230	23,683	26,906		
SHORTLEAF PINE	2,596,103	884,499	765,974	470,515	285,165	134,609	23,377	29,341	2,623	
LOBLOLLY PINE	20,055,541	3,071,456	3,934,079	3,918,931	3,357,623	2,386,323	1,443,307	1,804,917	138,905	
POND PINE	1,673,412	319,142	390,316	364,764	263,360	157,149	100,827	77,854		
VIRGINIA PINE	574,085	219,762	169,257	111,446	36,651	26,545	4,771	5,653		
PITCH PINE	27,592	5,870	11,389	2,835	1,961	5,537				
TABLE-MOUNTAIN PINE										
SPRUCE PINE	154,716	20,806	27,337	21,435	23,097	16,689	23,231	22,121		
SAND PINE										
EASTERN WHITE PINE	123,652	4,139	7,116	10,491	14,106	12,822	9,012	59,519	6,447	
EASTERN HEMLOCK	28,146	2,283	3,942	4,782	2,355			14,784		
SPRUCE AND FIR										
BALDCYPRESS	1,520,593	103,564	141,697	224,339	242,977	196,964	182,470	341,815	86,767	
PONDYCYPRESS	466,628	78,658	75,237	91,837	72,747	40,720	42,239	55,068	10,122	
CEDARS	106,569	49,388	23,834	3,269	7,134	7,369	8,391	7,194		
TOTAL SOFTWOODS	31,318,816	5,756,656	6,542,708	6,110,002	4,902,484	3,259,243	1,917,397	2,483,408	246,918	
HARDWOOD:										
SELECT WHITE OAKS	1,533,957		274,746	311,967	291,214	207,600	126,590	252,440	69,400	
SELECT RED OAKS	657,972		91,863	126,550	127,675	101,766	44,944	128,728	36,446	
CHESTNUT OAK	131,261		29,461	27,392	21,639	25,343	1,868	25,558		
OTHER WHITE OAKS	738,015		114,817	106,945	83,040	60,034	12,167	183,130	117,882	
OTHER RED OAKS	5,261,646		848,479	833,633	845,003	643,513	560,039	1,099,014	431,915	
HICKORY	1,179,648		180,839	213,065	169,803	152,107	116,990	226,825	100,019	
YELLOW BIRCH										
HARD MAPLE	16,082		1,416	4,790	2,457		2,367	5,012		
SOFT MAPLE	1,043,461		194,689	217,982	138,701	142,661	112,839	158,655	17,934	
BEECH	122,523		24,085	14,441	12,709	11,222	10,838	47,353	1,875	
SWEETGUM	4,601,234		911,469	885,340	845,500	678,188	450,128	701,968	128,641	
TUPELO AND BLACKGUM	4,561,304		748,114	919,390	844,246	664,317	454,957	777,680	173,600	
ASH	767,059		137,733	171,941	121,200	115,545	74,531	119,990	26,229	
COTTONWOOD	287,904		29,052	22,754	30,493	36,574	19,012	62,828	86,991	
BASSWOOD	2,825		2,825							
YELLOW POPLAR	3,158,297		242,703	364,422	482,013	361,272	305,413	383,312	64,147	
BAY AND MAGNOLIA	39,570		8,063	4,981	9,706	8,906	7,619	7,651	5,784	
BLACK CHERRY	4,174		3,400	774						
BLACK WALNUT	24,250		2,499	2,452	4,087	8,219	1,133	5,860		
SYCAMORE	55,760		9,455	44,371	17,714	17,001	34,548	84,673	15,448	
BLACK LOCUST	22,541		1,039							
FIR	450,470		97,542	66,923	74,390	62,450	45,481	67,502	34,221	
OTHER EASTERN HARDWOODS	390,190		33,505	50,983	33,016	44,254	48,146	77,174	3,111	
TOTAL HARDWOODS	24,249,243		4,097,801	4,418,146	4,174,756	3,344,874	2,484,670	4,415,353	1,313,643	
ALL SPECIES	55,568,059	5,756,656	10,740,509	10,528,148	9,077,240	6,604,117	4,402,067	6,898,761	1,560,561	

TABLE 17. --NET ANNUAL GROWTH AND REMOVALS OF GROWING STOCK ON COMMERCIAL FOREST LAND, BY SPECIES, 1977

SPECIES	NET ANNUAL GROWTH	ANNUAL TIMBER REMOVALS
- - THOUSAND CUBIC FEET - -		
SOFTWOOD:		
YELLOW PINES	599,841	353,875
EASTERN WHITE PINE	1,069	406
SPRUCE AND FIR	--	--
CYPRESS	11,117	4,859
OTHER EASTERN SOFTWOODS	5,722	1,390
TOTAL SOFTWOODS	617,749	360,530
HARDWOOD:		
SELECT WHITE AND RED OAKS	36,353	19,641
OTHER WHITE AND RED OAKS	100,544	40,304
HICKORY	13,668	6,005
YELLOW BIRCH	--	--
HARD MAPLE	222	--
SWEETGUM	73,372	26,778
ASH, WALNUT, AND BLACK CHERRY	10,329	3,140
YELLOW-POPLAR	32,227	8,819
TUPELO AND BLACKGUM	36,679	17,757
BAY AND MAGNOLIA	768	167
OTHER EASTERN HARDWOODS	41,434	12,814
TOTAL HARDWOODS	345,596	135,425
ALL SPECIES	963,345	495,955

TABLE 18. --NET ANNUAL GROWTH AND REMOVALS OF SAWTIMBER ON COMMERCIAL FOREST LAND, BY SPECIES, 1977

SPECIES	NET ANNUAL GROWTH	ANNUAL TIMBER REMOVALS
- - - THOUSAND BOARD FEET - - -		
SOFTWOOD:		
YELLOW PINES	2,237,806	1,330,964
EASTERN WHITE PINE	5,245	2,120
SPRUCE AND FIR	--	--
CYPRESS	55,271	23,443
OTHER EASTERN SOFTWOODS	9,167	3,967
TOTAL SOFTWOODS	2,307,489	1,360,494
HARDWOOD:		
SELECT WHITE AND RED OAKS	136,250	73,788
OTHER WHITE AND RED OAKS	341,586	137,887
HICKORY	40,663	20,602
YELLOW BIRCH	--	--
HARD MAPLE	2,541	--
SWEETGUM	240,626	89,001
ASH, WALNUT, AND BLACK CHERRY	39,017	11,347
YELLOW-POPLAR	148,610	38,091
TUPELO AND BLACKGUM	154,616	66,868
BAY AND MAGNOLIA	1,545	649
OTHER EASTERN HARDWOODS	116,280	43,618
TOTAL HARDWOODS	1,221,734	481,851
ALL SPECIES	3,529,223	1,842,345

TABLE 19. --MORTALITY OF GROWING STOCK AND SAWTIMBER ON COMMERCIAL
FOREST LAND, BY SPECIES, 1977

SPECIES	GROWING STOCK	SAWTIMBER
	THOUSAND CUBIC FEET	THOUSAND BOARD FEET
SOFTWOOD:		
YELLOW PINES	68,149	192,830
EASTERN WHITE PINE	--	--
SPRUCE AND FIR	--	--
CYPRESS	813	761
OTHER EASTERN SOFTWOODS	1,538	4,724
TOTAL SOFTWOODS	70,500	198,315
HARDWOOD:		
SELECT WHITE AND RED OAKS	1,591	4,080
OTHER WHITE AND RED OAKS	13,439	36,531
HICKORY	802	2,842
YELLOW BIRCH	--	--
HARD MAPLE	--	--
SWEETGUM	6,690	20,287
ASH, WALNUT, AND BLACK CHERRY	2,855	5,193
YELLOW-POPLAR	1,778	4,231
TUPELO AND BLACKGUM	2,526	8,665
BAY AND MAGNOLIA	131	--
OTHER EASTERN HARDWOODS	11,350	32,653
TOTAL HARDWOODS	41,162	114,482
ALL SPECIES	111,662	312,797

TABLE 20. -- VOLUME OF ALL LIVE TREES AND GROWING STOCK ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1978

OWNERSHIP CLASS	ALL LIVE TREES				GROWING STOCK					
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
						THOUSAND CUBIC FEET				
NATIONAL FOREST	1,254,580	713,472	64,095	274,107	202,906	1,152,510	702,982	62,997	232,726	163,805
OTHER PUBLIC	828,758	468,239	13,517	178,143	168,859	762,154	462,100	13,117	150,815	136,122
FOREST INDUSTRY	3,286,230	1,355,464	171,822	1,131,975	626,969	2,888,867	1,312,442	158,165	908,909	509,351
FARMER	6,713,637	2,792,004	142,175	2,040,956	1,738,502	5,923,798	2,716,824	134,454	1,658,155	1,414,365
MISCELLANEOUS PRIVATE	7,267,965	3,236,152	216,378	1,995,601	1,819,834	6,443,046	3,159,444	204,591	1,618,772	1,460,239
ALL OWNERSHIPS	19,351,170	8,565,331	507,987	5,620,782	4,557,070	17,180,375	8,353,792	573,321	4,569,377	3,683,882

TABLE 21. -- VOLUME OF SAWTIMBER ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1978

OWNERSHIP CLASS	SMALL SAWTIMBER ¹					LARGE SAWTIMBER ²				
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
						THOUSAND BOARD FEET				
NATIONAL FOREST	1,986,279	1,524,793	81,255	241,933	138,298	2,639,223	1,626,275	194,231	478,451	340,266
OTHER PUBLIC	1,429,559	1,131,128	17,894	165,490	115,047	1,183,863	638,052	26,308	232,738	286,765
FOREST INDUSTRY	4,228,824	2,683,072	247,997	834,614	463,141	5,128,739	1,243,924	411,860	2,207,535	1,265,420
FARMER	9,160,471	5,637,661	196,038	1,887,166	1,439,606	9,419,421	3,980,835	269,784	2,811,148	2,357,654
MISCELLANEOUS PRIVATE	10,220,180	6,708,136	281,392	1,779,278	1,451,374	10,171,500	3,899,352	518,829	2,973,893	2,779,426
ALL OWNERSHIPS	27,025,313	17,684,790	824,576	4,908,481	3,607,466	28,542,746	11,388,438	1,421,012	8,703,765	7,029,531

¹ VOLUME OF SAWTIMBER TREES LESS THAN 15.0 INCHES AT D.B.H.

² VOLUME OF SAWTIMBER TREES 15.0 INCHES AND LARGER AT D.B.H.

TABLE 22. --NET ANNUAL GROWTH AND REMOVALS OF GROWING STOCK ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1977

OWNERSHIP CLASS	NET ANNUAL GROWTH				ANNUAL TIMBER REMOVALS					
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
						THOUSAND CUBIC FEET				
NATIONAL FOREST	52,880	35,349	1,918	8,837	6,776	30,738	28,857	--	291	1,590
OTHER PUBLIC	42,721	29,500	334	6,715	6,172	19,831	14,924	349	1,549	3,009
FOREST INDUSTRY	172,757	117,898	4,096	30,366	20,397	123,132	89,779	2,874	17,229	13,250
FARMER	332,014	189,916	4,810	70,661	66,627	151,441	104,861	1,431	23,013	22,136
MISCELLANEOUS PRIVATE	362,973	227,178	6,750	64,525	64,520	170,813	115,454	2,001	22,163	31,195
ALL OWNERSHIPS	963,345	599,841	17,908	181,104	164,492	495,955	353,875	6,655	64,245	71,180

TABLE 23. --NET ANNUAL GROWTH AND REMOVALS OF SAWTIMBER ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1977

OWNERSHIP CLASS	NET ANNUAL GROWTH				ANNUAL TIMBER REMOVALS					
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
						THOUSAND BOARD FEET				
NATIONAL FOREST	233,147	168,005	8,882	30,440	25,820	118,107	114,318	--	--	3,789
OTHER PUBLIC	170,748	124,997	1,193	24,165	20,393	66,197	50,596	1,657	4,618	9,326
FOREST INDUSTRY	592,765	372,590	18,109	117,261	84,805	470,305	345,434	14,266	61,128	49,477
FARMER	1,208,029	722,737	16,826	245,866	222,600	569,718	404,079	4,954	82,599	78,076
MISCELLANEOUS PRIVATE	1,324,534	849,477	24,673	229,680	220,704	618,018	416,537	8,643	82,072	110,766
ALL OWNERSHIPS	3,529,223	2,237,806	69,683	647,412	574,322	1,842,345	1,330,964	29,530	230,417	251,434

TABLE 24. --AVERAGE NET VOLUME PER ACRE OF SAWTIMBER, GROWING STOCK, AND OTHER LIVE TIMBER ON COMMERCIAL FOREST LAND, 8Y OWNERSHIP CLASS, MAJOR FOREST TYPE, AND SPECIES GROUP, 1978

FOREST TYPE, AND SPECIES GROUP, AND CLASS OF MATERIAL	ALL OWNERSHIPS			OWNERSHIP CLASS									
	NAT. OWNAL FOREST			OTHER PUBLIC		FOREST INDUSTRY		FARMER		M.S.C. PRIVATE			
	BOARD FEET	CUBIC FEET		BOARD FEET	CUBIC FEET	BOARD FEET	CUBIC FEET	BOARD FEET	CUBIC FEET	BOARD FEET	CUBIC FEET	BOARD FEET	CUBIC FEET
PINE TYPES:													
GROWING STOCK:													
SOFTWOOD	4,034	1,216		7,449	1,690	4,386	1,192	2,820	991	4,042	1,204	4,066	1,275
HARDWOOD	212	115		376	161	137	89	155	79	249	133	195	117
TOTAL	4,246	1,331		7,825	1,851	4,523	1,281	2,975	1,070	4,291	1,337	4,261	1,392
OTHER TIMBER:													
SOFTWOOD		32			27		16		35		35		32
HARDWOOD		35			52		33		26		39		35
TOTAL		67			79		49		61		74		67
OAK-PINE TYPES:													
GROWING STOCK:													
SOFTWOOD	2,409	602		4,576	938	2,834	621	1,616	434	2,547	642	2,219	572
HARDWOOD	1,162	487		1,930	754	701	290	625	330	1,302	535	1,142	474
TOTAL	3,571	1,089		6,506	1,692	3,535	911	2,241	764	3,849	1,177	3,361	1,046
OTHER TIMBER:													
SOFTWOOD		13			8		11		9		15		14
HARDWOOD		121			161		71		61		141		119
TOTAL		134			169		82		70		156		133
UPLAND HARDWOOD TYPES:													
GROWING STOCK:													
SOFTWOOD	538	139		1,670	343	717	175	456	116	498	131	503	135
HARDWOOD	2,627	946		4,505	1,513	2,941	939	2,256	741	2,568	968	2,620	938
TOTAL	3,165	1,085		6,175	1,856	3,658	1,114	2,712	857	3,066	1,099	3,123	1,073
OTHER TIMBER:													
SOFTWOOD		4			271		226		144		186		5
HARDWOOD		188			271		226		145		191		192
TOTAL		192			271		226		145		191		197
BOTTOMLAND HARDWOOD TYPES:													
GROWING STOCK:													
SOFTWOOD	1,326	298		3,075	703	1,523	337	1,593	359	899	208	1,416	310
HARDWOOD	5,910	1,769		6,767	1,942	5,163	1,822	7,507	2,052	4,768	1,528	6,094	1,824
TOTAL	7,236	2,067		9,842	2,645	6,686	2,159	9,100	2,411	5,667	1,736	7,510	2,134
OTHER TIMBER:													
SOFTWOOD		13			16		6		26		8		11
HARDWOOD		428			340		253		504		374		463
TOTAL		441			356		259		530		382		474
ALL TYPES:													
GROWING STOCK:													
SOFTWOOD	2,505	714		5,715	1,278	3,116	816	2,095	671	2,250	636	2,453	723
HARDWOOD	1,939	660		2,000	661	1,375	493	2,178	648	1,896	586	1,932	662
TOTAL	4,444	1,374		7,715	1,939	4,491	1,309	4,273	1,319	4,146	1,322	4,385	1,385
OTHER TIMBER:													
SOFTWOOD		20			19		11		26		18		19
HARDWOOD		154			134		103		156		158		158
TOTAL		174			153		114		182		176		177
ALL TIMBER	4,444	1,548		7,715	2,092	4,491	1,423	4,273	1,501	4,146	1,498	4,385	1,562

TABLE 25. --LAND AREA, BY CLASS, MAJOR FOREST TYPE, AND SURVEY COMPLETION DATE, 1958, 1968, AND 1978

LAND USE CLASS	SURVEY COMPLETION DATE			CHANGE 1968-1978
	1958	1968	1978	
- - - - - ACRES - - - - -				
FOREST LAND:				
COMMERCIAL FOREST LAND:				
PINE AND OAK-PINE TYPES	6,683,600	7,303,720	7,289,464	- 14,256
HARDWOOD TYPES	5,251,300	5,122,864	5,213,442	+ 90,578
TOTAL	11,934,900	12,426,584	12,502,906	+ 76,322
NONCOMMERCIAL FOREST LAND:				
PRODUCTIVE-RESERVED	73,900	70,500	72,399	+ 1,899
UNPRODUCTIVE	7,000	12,655	3,893	- 8,762
TOTAL	80,900	83,155	76,292	- 6,863
NONFOREST LAND:				
CROPLAND	5,259,000	4,032,137	3,606,957	-425,180
PASTURE AND RANGE	743,500	1,029,342	1,006,997	- 22,345
OTHER	1,203,700	1,616,980	1,926,247	+309,267
TOTAL	7,206,200	6,678,459	6,540,201	-138,258
ALL LAND ¹	19,222,000	19,188,198	19,119,399	- 68,799

¹ EXCLUDES ALL WATER AREAS.

TABLE 26. -- VOLUME OF SAWTIMBER, GROWING STOCK, AND ALL LIVE TIMBER ON COMMERCIAL FOREST LAND, BY SPECIES GROUP, DIAMETER CLASS, AND SURVEY COMPLETION DATE

SPECIES GROUP	YEAR	ALL CLASSES	DIAMETER CLASS (INCHES AT BREAST HEIGHT)									
			5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0 AND LARGER	
			SAWTIMBER (IN THOUSAND BOARD FEET)									
SOFTWOOD	1958	18,214,376	--	--	3,532,893	3,925,759	3,358,254	2,822,328	1,904,753	1,110,288	1,560,101	
	1968	22,943,680	--	--	4,094,647	4,865,673	4,507,888	3,533,950	2,326,512	1,536,213	2,078,797	
	1978	31,318,816	--	--	5,756,656	6,642,708	6,110,002	4,902,484	3,259,243	1,917,397	2,730,326	
HARDWOOD	1958	16,856,942	--	--	--	2,940,992	3,235,270	2,917,276	2,320,395	1,751,623	3,691,386	
	1968	18,920,016	--	--	--	3,242,024	3,529,884	3,259,744	2,704,859	1,923,838	4,259,667	
	1978	24,249,243	--	--	--	4,097,801	4,418,146	4,174,756	3,344,874	2,484,670	5,728,996	
GROWING STOCK (IN THOUSAND CUBIC FEET)												
SOFTWOOD	1958	5,399,243	692,169	913,354	983,934	880,768	665,794	513,884	326,625	182,107	240,608	
	1968	6,731,827	906,580	1,083,661	1,140,546	1,091,896	893,878	643,418	398,903	252,205	320,740	
	1978	8,927,116	951,171	1,481,028	1,603,956	1,491,792	1,211,871	892,310	558,773	314,874	421,341	
HARDWOOD	1958	5,787,602	537,237	682,299	816,285	872,061	803,982	642,691	469,776	332,843	630,428	
	1968	6,616,307	643,706	847,716	926,523	961,513	877,264	718,547	547,560	365,655	727,823	
	1978	8,253,259	766,239	989,887	1,135,003	1,214,360	1,098,179	920,573	677,255	472,429	979,334	
ALL LIVE TIMBER (IN THOUSAND CUBIC FEET)												
SOFTWOOD	1958	5,554,358	737,211	955,364	1,012,894	895,159	672,635	518,647	327,992	184,241	250,215	
	1968	6,925,443	966,680	1,133,616	1,174,146	1,109,749	902,983	649,217	400,462	255,223	333,367	
	1978	9,173,318	1,014,984	1,549,216	1,651,594	1,516,194	1,224,052	900,304	560,897	318,420	437,657	
HARDWOOD	1958	7,148,396	817,178	909,354	1,024,962	1,049,442	933,398	722,321	533,915	381,646	776,180	
	1968	8,189,515	979,175	1,129,193	1,161,982	1,156,999	1,017,252	807,798	622,371	418,925	895,820	
	1978	10,177,852	1,164,494	1,317,547	1,420,941	1,456,982	1,270,863	1,033,313	768,475	540,592	1,204,645	

TO PROVIDE A BASIS FOR VALID COMPARISONS, ADJUSTMENTS HAVE BEEN MADE TO ALLOW FOR DIFFERENCES IN VOLUME TABLES AND SAWTIMBER SPECIFICATIONS USED IN PREVIOUS SURVEYS.



The Forest Service, U.S. Department of Agriculture, is dedicated to the principle of multiple management of the Nation's forest resources for sustained yields of wood, water, forage, wildlife, and recreation. Through forestry research, cooperation with the States and private forest owners, and management of the National Forest and Grasslands, it strives - as directed by Congress - to provide increasingly greater service to a growing Nation.

USDA policy does not permit discrimination because of race, color, national origin, sex or religion. Any person who believes he or she has been discriminated against in any USDA-related activity should write immediately to the Secretary of Agriculture, Washington, D.C. 20250.

NUMBER 51

THIS ISSUE IS MISSING AND
ANOTHER COPY CAN NOT BE
OBTAINED BY OUR LIBRARY

51 - 2nd Floor

1400-1401



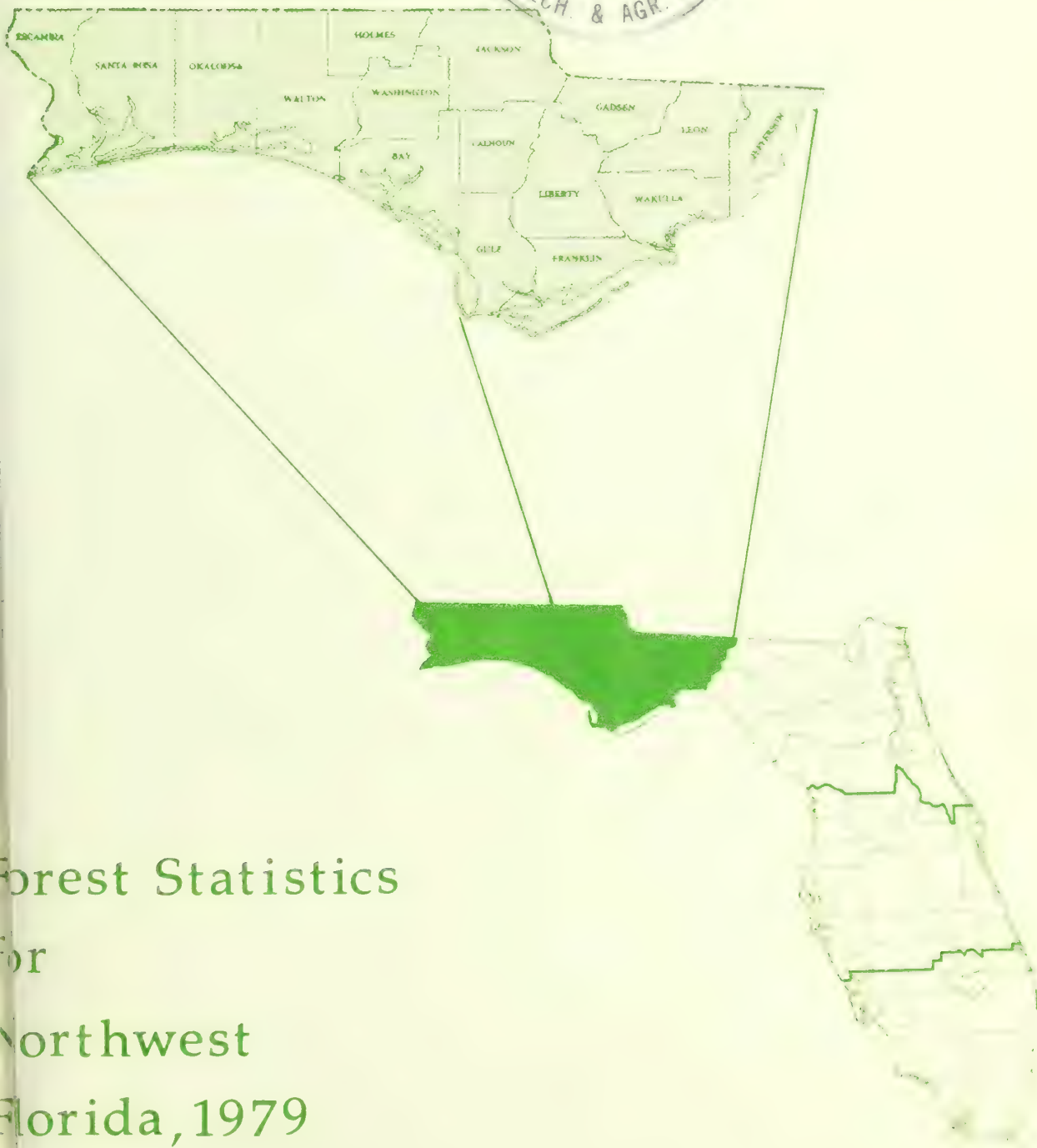
Department of Agriculture

Forest Service Resource Bulletin SE-52

GOVT. DOCUMENTS
DEPOSITORY ITEM

JUN 23 1980

CLEMSON
LIBRARY



FOREWORD

This report highlights the principal findings of the fifth forest survey of Northwest Florida. Fieldwork began in September 1978 and was completed in June 1979. Four previous surveys, completed in 1934, 1949, 1959, and 1969, provide statistics for measuring changes and trends over the past 45 years. The primary emphasis in this report is on the changes and trends since 1969. Previously reported figures have been adjusted to provide the best estimate of change.

Renewable Resources Evaluation (formerly Forest Survey) is authorized by the Forest and Rangeland Renewable Resources Research Act of 1978. The survey is a continuing, nationwide undertaking by the regional experiment stations of the Forest Service, USDA. In Florida, Georgia, North Carolina, South Carolina, and Virginia, Renewable Resources Evaluation is administered through the Southeastern Forest Experiment Station, with headquarters in Asheville, North Carolina. The primary objective of the survey is to periodically inventory and evaluate forest and related resources. These inventories provide information on the extent and condition of forest lands, volume of timber, and rates of timber growth and removals. These data and evaluations help provide a basis for formulating forest policies and programs and for the orderly development and use of the resources.

The 16-county area covered by this report is one of four survey units in Florida. Comparable reports for the other three units will be issued as the Statewide survey progresses. When completed, this survey will provide updated statistics on the forest resource for all of Florida.

The Southeastern Station gratefully acknowledges the cooperation and assistance provided by the Florida Forest Service in collecting the field data. Appreciation is also expressed for the excellent cooperation of other public agencies, forest industry, and private landowners in providing information and access to the sample locations. The Department of Defense provided special support for the survey of Eglin Air Force Base.

John P. McClure

JOHN P. MCCLURE
District Leader

March 1980

Southeastern Forest Experiment Station
Asheville, North Carolina

Forest Statistics
for
Northwest Florida,
1979

by
Raymond M. Sheffield, Resource Analyst
Asheville, North Carolina

CONTENTS

	<u>Page</u>
HIGHLIGHTS	1
HOW THE INVENTORY IS MADE.....	3
RELIABILITY OF THE DATA	4
DEFINITIONS OF TERMS	6
COUNTY TABLES	
1. Area, by land class	13
2. Area of commercial forest land, by ownership class	14
3. Area of commercial forest land, by forest-type group	15
4. Area of commercial forest land, by stand-size class.....	16
5. Area of commercial forest land, by site class.....	16
6. Area of commercial forest land, by stocking classes of growing-stock trees	17
7. Volume of sawtimber and growing stock on commercial forest land, by species group.....	18
8. Net annual growth of sawtimber and growing stock on commercial forest land, by species group	19
9. Annual removals of sawtimber and growing stock on commercial forest land, by species group	20
UNIT TABLES	
10. Area of commercial forest land, by forest type and ownership class.....	21
11. Area of commercial forest land, by ownership and stocking classes of growing-stock trees	21
12. Volume of timber on commercial forest land, by class and species group	22
13. Number of growing-stock trees on commercial forest land, by species and diameter class	23
14. Volume of all live trees on commercial forest land, by species and diameter class	24
15. Volume of growing stock on commercial forest land, by species and diameter class	25
16. Volume of sawtimber on commercial forest land, by species and diameter class	26
17. Net annual growth and removals of growing stock on commercial forest land, by species	27
18. Net annual growth and removals of sawtimber on commercial forest land, by species	27
19. Mortality of growing stock and sawtimber on commercial forest land, by species	28
20. Volume of all live trees and growing stock on commercial forest land, by ownership class and species group	29
21. Volume of sawtimber on commercial forest land, by ownership class and species group	29
22. Net annual growth and removals of growing stock on commercial forest land, by ownership class and species group	30
23. Net annual growth and removals of sawtimber on commercial forest land, by ownership class and species group	30
24. Average net volume per acre of sawtimber, growing stock, and other live timber on commercial forest land, by ownership class, major forest type, and species group.....	31
25. Land area, by class, major forest type, and survey completion date	32
26. Volume of sawtimber, growing stock, and all live timber on commercial forest land, by species group, diameter class, and survey completion date	33

HIGHLIGHTS

Since 1969 in Northwest Florida—

area of commercial forest land has declined by over 266,000 acres, or by nearly 5 percent. Some 326,000 acres of commercial forest land were diverted to other land uses, but only 60,000 acres were added from nonforest sources. Diversions to agricultural uses accounted for over one-half the total loss, while those to urban land uses accounted for over one-third. The remaining diversions were to noncommercial forest land. Commercial forests now occupy 5.5 million acres, or 75 percent of the land area in this 16-county region.

area of commercial forest land owned by farmers has declined by over one-quarter million acres, and now totals 650,000 acres. Forest-industry holdings (which have changed little in the past 10 years) comprise over 1.9 million acres. Publicly owned forest land covers over 1.2 million acres, or 22 percent of the commercial forest land—about the same area as in 1969. The acreage in the miscellaneous private ownership group, consisting of both miscellaneous private corporations and individuals, has increased by 3 percent. The present acreage in the corporate portion of this category—647,000 acres—is roughly double the comparable acreage in 1969. A direct comparison with the old reported estimate of miscellaneous private-corporate acreage is invalid because some landowners were reclassified in this latest inventory.

about 49 percent of the area now classed as commercial forest land has been treated or significantly disturbed. Altogether, over 915,000 acres have been harvested since the fourth inventory. Nearly 312,000 of these harvested acres now contain adequate numbers of trees that were artificially established. Only 89,000 acres were classed as having adequate natural regeneration of suitable species. The remaining 514,000 harvested acres were classed as having insufficient tree stocking. Another 196,000 acres of poorly stocked, nonstocked, and idle land were artificially regenerated during the period. Altogether, some one-half million acres were planted or seeded, with 77 percent of this activity taking place on lands owned or leased by forest industry. Stands with evidence of artificial seeding or planting now occupy over 1.2 million acres. Additional treatments included intermediate cutting on 330,000 acres, and other treatments—primarily prescribed burning—on 859,000 acres. Weather, disease, insects, and other natural destructive agents caused significant damage on 381,000 acres.

area of commercial forest land occupied by pine forest types has increased by 79,000 acres, or by 3 percent. This small net increase in pine types masks forest-type changes involving pine on over 1.0 million acres. Over 545,000 acres changed from an oak-pine or hardwood type to pine. About 60 percent of this acreage change to pine types was due to forestry practices such as harvesting, artificial regeneration, intermediate cutting, prescribed burning, and various other treatments; stands experiencing natural disturbances and undisturbed stands accounted for the remaining 40 percent. Over 291,000 acres changed from a pine type to either oak-pine or hardwood, mainly because of harvesting without subsequent planting efforts. Another 175,000 acres of pine type were lost due to land clearing. Slash, sand, and loblolly pine types made up most of the net increase in pine types. Acreages of the other major pine types declined, as did those of oak-pine and hardwood types. Scrub oak types declined by over 200,000 acres, accounting for almost all the hardwood-type reduction.

average basal area of all live trees 5.0 inches d.b.h. and larger has increased from 41 to 50 square feet per acre of commercial forest land. Acreage in stands fully stocked with growing-stock trees has more than doubled, while the area classed as poorly stocked or nonstocked has decreased by 716,000 acres, or by 25 percent. However, nearly 2 out of every 5 acres are still poorly stocked or nonstocked with growing-stock trees. The number of 2-inch softwoods decreased by 14 percent, but the number of 4-inch softwoods increased by 10 percent.

volume of softwood growing stock has increased from 2.3 to over 2.7 billion cubic feet, or by 21 percent. The increase occurred across the entire range of diameters, with the 12- and 14-inch-diameter classes accounting for over 41 percent of the gain. Increases in volume were recorded for all the major

softwood species. The volume increase for longleaf pine was less than 1 percent. Slash pine accounted for 69 percent of the gain in softwood volume, increasing by 43 percent. Slash pine has now surpassed longleaf pine as the region's predominant softwood species in terms of volume. The current inventory of softwood growing stock includes 9.3 billion board feet of sawtimber, up 26 percent since 1969.

volume of hardwood growing stock has increased from 1.6 to 1.8 billion cubic feet or by 13 percent. Species in the red oak group accounted for 49 percent of the total hardwood gain; bay and magnolia, tupelo and blackgum, and sweetgum also made substantial gains. Volumes of hickory, ash, elm, and a group of miscellaneous eastern hardwoods declined. The hardwood-volume increase occurred across all diameter classes; however, more than 82 percent of the increase was in the 10-, 12-, 14-, and 20-inch and larger diameter classes. The current inventory of hardwood growing stock includes 5.3 billion board feet of sawtimber, up 16 percent since 1969.

In 1978—

net annual growth of growing stock totaled 236 million cubic feet, an average of 43 cubic feet per acre of commercial forest land. Softwood species made up 76 percent of this growth. Net growth exceeded removals by 34 percent for softwoods and by 84 percent for hardwoods. More than one-half of the excess of growth over removals occurred on public land. On farmer-owned commercial forest land, pine growing-stock removals exceeded net growth by almost 26 percent. Pine sawtimber removals on forest industry holdings exceeded net growth by 15 percent. The net annual growth of all species included 880 million board feet of sawtimber.

removals of growing stock totaled 165 million cubic feet and included 573 million board feet of sawtimber. Softwood species made up 81 percent of the removals. Private landowners supply a disproportionate share of growing-stock removals. Farmers own 12 percent of the commercial forests, but supply 17 percent of the removals; miscellaneous private owners control 31 percent of the commercial forests, but supply 34 percent of the removals; forest industries own 35 percent but supply 37 percent of the removals. Public holdings, however, make up 22 percent of all commercial forests, but supply only 12 percent of the growing-stock removals.

mortality of growing stock totaled 34 million cubic feet and included 111 million board feet of sawtimber. The leading identifiable causes of death were weather, insects, disease, and suppression. The mortality was equally divided between softwoods and hardwoods. Altogether, mortality reduced gross growth by 13 percent.

HOW THE INVENTORY IS MADE

The method of the inventory is a sampling procedure designed to provide reliable statistics primarily at the State and Survey Unit levels. Individual county statistics are presented so that any combination of counties may be added together until a total is large enough to meet the desired degree of reliability. Procedures were as follows:

1. Initial estimates of forest and nonforest areas were based on the classification of 20,680 sample clusters systematically spaced on the latest aerial photographs available. A subsample of 2,322 of the 16-point clusters was ground checked, and a linear regression was fitted to the data to develop the relationship between the photo and ground classification of the subsample. This procedure provides a means for adjusting the initial estimates of area for change in land use since date of photography and for photo misclassifications.

2. Estimates of timber volume and forest classifications were based on measurements recorded at 1,606 ground sample locations systematically distributed within the commercial forest land. The plot design at each location was based on a cluster of 10 points. In most cases, variable plots, using a basal-area factor of 37.5 square feet per acre, were systematically spaced within a single forest condition at 5 of the 10 cluster points. Trees less than 5 inches d.b.h. were tallied on a fixed-radius plot around each point center.

3. Equations prepared from detailed measurements collected on standing trees in this Unit, and similar measurements taken throughout the Southeast, were used to compute the volume of individual tally trees. A mirror caliper and sectional aluminum poles were used to obtain the additional measurements on these standing trees required to construct volume equations.

4. Felled trees were measured at 35 active cutting operations. These data will be pooled with similar measurements taken in the State to supplement the standing-tree-volume data and to generate utilization factors for product and species groups that will be analyzed at the State level.

5. Estimates of growth, removals, and mortality were determined from the remeasurement of 1,702 permanent sample plots established in the fourth survey.

6. Ownership information was collected from correspondence, public records, and local contacts. In those counties where the sample missed a particular ownership class, temporary sample plots were added on these lands.

7. All field data were sent to Asheville for editing and were punched into cards and stored for machine computing, sorting, and tabulation. Final estimates were based on statistical summaries of the data.

RELIABILITY OF THE DATA

Statistical analysis of these data indicates the following sampling errors in terms of one standard error (two times out of three):

	<i>Percent</i>
Per million acres of commercial forest land	1.15
Per billion cubic feet of growing stock	6.33
Per billion cubic feet of net annual growth	1.36
Per billion cubic feet of annual removals	2.59

*SAMPLING ERRORS FOR COUNTY AND UNIT TOTALS,¹ IN TERMS OF
ONE STANDARD ERROR*

COUNTY	COMMERCIAL FOREST AREA	CUBIC-FOOT VOLUME OF GROWING STOCK		
		INVENTORY	GROWTH	REMOVALS
- - - - - <i>SAMPLING ERROR²</i> - - - - -				
BAY	2.05	14.09	11.21	27.92
CALHOUN	1.57	11.55	11.70	32.92
ESCAMBIA	2.13	10.90	11.01	24.74
FRANKLIN	1.50	18.14	15.29	25.64
GADSDEN	2.30	13.10	14.46	24.06
GULF	2.40	16.46	12.98	33.97
HOLMES	2.10	13.55	15.03	21.62
JACKSON	2.30	10.93	11.01	20.31
JEFFERSON	2.18	9.76	9.88	26.99
LEON	3.47	9.61	8.83	22.19
LIBERTY	0.51	9.78	8.59	29.12
OKALOOSA	1.45	10.66	10.27	24.81
SANTA ROSA	1.44	8.65	8.28	22.00
WAKULLA	1.23	10.80	11.04	24.24
WALTON	1.83	9.26	8.36	21.01
WASHINGTON	2.00	14.86	16.48	28.55
UNIT TOTAL	0.49	2.97	2.78	6.36

¹ SAMPLING ERROR OF BREAKDOWNS OF COUNTY AND UNIT TOTALS
MAY BE COMPUTED WITH THE FOLLOWING FORMULA:

$$E = \frac{(SE) \sqrt{(\text{SPECIFIED VOLUME OR AREA})}}{\sqrt{(\text{VOLUME OR AREA TOTAL IN QUESTION})}}$$

WHERE: E = SAMPLING ERROR OF THE VOLUME OR AREA TOTAL IN
QUESTION.

SE = SPECIFIED SAMPLING ERROR IN TABLE.

² BY RANDOM-SAMPLING FORMULA (IN PERCENT).

DEFINITIONS OF TERMS

Acceptable trees.--Growing-stock trees of commercial species that meet specified standards of size and quality, but not qualifying as desirable trees.

Basal area.--The area in square feet of the cross section at breast height of a single tree or of all the trees in a stand, usually expressed as square feet of basal area per acre.

Commercial forest land.--Forest land producing or capable of producing crops of industrial wood and not withdrawn from timber utilization.

Commercial species.--Tree species presently or prospectively suitable for industrial wood products.

Cropland.--Land under cultivation within the past 24 months, including orchards and land in soil-improving crops, but excluding land cultivated in developing improved pasture. Also includes idle farmland.

Desirable trees.--Growing-stock trees of commercial species having no serious defects in quality limiting present or prospective use for timber products, of relatively high vigor, and containing no pathogens that may result in death or serious deterioration before rotation age.

Diameter class.--A classification of trees based on diameter outside bark, measured at breast height ($4\frac{1}{2}$ feet above the ground). D.b.h. is the common abbreviation for "diameter at breast height." Two-inch-diameter classes are commonly used in Forest Survey, with the even inch the approximate midpoint for a class. For example, the 6-inch class includes trees 5.0 through 6.9 inches d.b.h., inclusive.

Farm.--Either a place operated as a unit of 10 or more acres from which the sale of agricultural products totaled \$50 or more annually, or a place operated as a unit of less than 10 acres from which the sale of agricultural products for the year amounted to at least \$250.

Farm operator.--A person who operates a farm, either doing the work himself or directly supervising the work.

Farmer-owned lands.--Lands owned by farm operators.

Forest industry lands.--Lands owned by companies or individuals operating wood-using plants.

Forest land.--Land at least 16.7 percent stocked by forest trees of any size, or formerly having had such tree cover, and not currently developed for nonforest use.

Forest type.--A classification of forest land based upon the species forming a plurality of live-tree stocking.

Longleaf-slash pine.--Forests in which longleaf or slash pine, singly or in combination, comprises a plurality of the stocking. (Common associates include oak, hickory, and gum.)

Loblolly-shortleaf pine.--Forests in which loblolly pine, shortleaf pine, or other southern yellow pines, except longleaf or slash pine, singly or in combination, comprise a plurality of the stocking. (Common associates include oak, hickory, and gum.)

Oak-pine.--Forests in which hardwoods (usually upland oaks) comprise a plurality of the stocking but in which pines comprise 25 to 50 percent of the stocking. (Common associates include gum, hickory, and yellow-poplar.)

Oak-hickory.--Forests in which upland oaks or hickory, singly or in combination, comprise a plurality of the stocking, except where pines comprise 25 to 50 percent, in which case the stand would be classified oak-pine. (Common associates include yellow-poplar, elm, maple, and black walnut.)

Oak-gum-cypress.--Bottomland forests in which tupelo, blackgum, sweetgum, oaks, or southern cypress, singly or in combination, comprises a plurality of the stocking, except where pines comprise 25 to 50 percent, in which case the stand would be classified oak-pine. (Common associates include cottonwood, willow, ash, elm, hackberry, and maple.)

Elm-ash-cottonwood.--Forests in which elm, ash, or cottonwood, singly or in combination, comprises a plurality of the stocking. (Common associates include willow, sycamore, beech, and maple.)

Gross growth.--Annual increase in net volume of trees in the absence of cutting and mortality.

Growing-stock trees.--Live trees of commercial species qualifying as desirable or acceptable trees.

Growing-stock volume.--Net volume in cubic feet of growing-stock trees 5.0 inches d.b.h. and over from a 1-foot stump to a minimum 4.0-inch top diameter outside bark of the central stem, or to the point where the central stem breaks into limbs. (Net volume in primary forks is included.)

Hardwoods.--Dicotyledonous trees, usually broad-leaved and deciduous.

Soft hardwoods.--Soft-textured hardwoods such as boxelder, red and silver maple, buckeye, hackberry, loblolly-bay, silverbell (in mountains), butternut, sweetgum, yellow-poplar, cucumbertree, magnolia, sweetbay, water tupelo, blackgum, sycamore, cottonwood, black cherry, willow, basswood, and elm.

Hard hardwoods.--Hard-textured hardwoods such as Florida and sugar maple, birch, hickory, dogwood, persimmon (forest grown), beech, ash, honeylocust, holly, black walnut, mulberry, all commercial oaks, and black locust.

Idle farmland.--Includes former croplands, orchards, improved pastures and farm sites not tended within the past 2 years, and presently less than 16.7 percent stocked with trees.

Improved pasture.--Land currently improved for grazing by cultivation, seeding, irrigation, or clearing of trees or brush.

Industrial wood.--All roundwood products except fuelwood.

Land area.--The area of dry land and land temporarily or partly covered by water such as marshes, swamps, and river flood plains (omitting tidal flats below mean high tide); streams, sloughs, estuaries, and canals less than 1/8 of a statute mile in width; and lakes, reservoirs, and ponds less than 40 acres in area.

Logging residues.--The unused portions of trees cut or killed by logging.

Miscellaneous Federal lands.--Federal lands other than National Forests, lands administered by the Bureau of Land Management, and Indian lands.

Miscellaneous private lands - corporate.--Lands owned by private corporations other than forest industry.

Miscellaneous private lands - individual.--Privately owned lands other than forest-industry, farmer-owned, or corporate lands.

Mortality.--Number or sound-wood volume of live trees dying from natural causes during a specified period.

National Forest land.--Federal lands which have been legally designated as National Forests or purchase units, and other lands under the administration of the Forest Service, including experimental areas and Bankhead-Jones Title III lands.

Net annual growth.--The increase in volume for a specific year.

Net volume.--Gross volume less deductions for rot, sweep, or other defect affecting use for timber products.

Noncommercial forest land.--(a) Unproductive forest land incapable of yielding crops of industrial wood because of adverse site conditions, and (b) productive-reserved forest land.

Noncommercial species.--Tree species of typically small size, poor form, or inferior quality which normally do not develop into trees suitable for industrial wood products.

Nonforest land.--Land that has never supported forests and lands formerly forested where timber management is precluded by development for other uses.

Nonstocked land.--Commercial forest land less than 16.7 percent stocked with growing-stock trees.

Other Federal lands.--Federal lands other than National Forests, including lands administered by the Bureau of Land Management, Bureau of Indian Affairs, and other Federal agencies.

Other public lands.--Publicly owned lands other than National Forests.

Overstocked areas.--Areas where growth of trees is significantly reduced by excessive numbers of trees.

Poletimber trees.--Growing-stock trees of commercial species at least 5.0 inches in d.b.h. but smaller than sawtimber size.

Productive-reserved forest land.--Forest land sufficiently productive to qualify as commercial forest land, but withdrawn from timber utilization through statute or administrative designation.

Rangeland.--Land on which the natural plant cover is composed principally of native grasses, forbs, or shrubs valuable for forage.

Rotten trees.--Live trees of commercial species that do not contain at least one 12-foot saw log, or two noncontiguous saw logs, each 8 feet or longer, now or prospectively, primarily because of rot or missing sections, and with less than one-third of the gross tree volume in sound material.

Rough trees.--(a) Live trees of commercial species that do not contain at least one 12-foot saw log, or two noncontiguous saw logs, each 8 feet or longer, now or prospectively, primarily because of roughness, poor form, splits, and cracks, and with less than one-third of the gross tree volume in sound material; and (b) all live trees of noncommercial species.

Salvable dead trees.--Standing or down dead trees that are considered merchantable by Forest Survey standards.

Saplings.--Live trees 1.0 to 5.0 inches in diameter at breast height.

Saw log.--A log meeting minimum standards of diameter, length, and defect, including logs at least 8 feet long, sound and straight, and with a minimum diameter inside bark for softwoods of 6 inches (8 inches for hardwoods).

Saw-log portion.--That part of the bole of sawtimber trees between the stump and the saw-log top.

Saw-log top.--The point on the bole of sawtimber trees above which a saw log cannot be produced. The minimum saw-log top is 7.0 inches d.o.b. for softwoods and 9.0 inches d.o.b. for hardwoods.

Sawtimber trees.--Live trees of commercial species containing at least a 12-foot saw log, or two noncontiguous saw logs, each 8 feet or longer, and with at least one-third of the gross board-foot volume between the 1-foot stump and minimum saw-log top being sound. Softwoods must be at least 9.0 inches and hardwoods at least 11.0 inches in diameter at breast height.

Sawtimber volume.--Net volume of the saw-log portion of live sawtimber in board-foot International 1/4-inch rule.

Seedlings.--Live trees less than 1.0 inch in diameter at breast height that are expected to survive and develop.

Site class.--A classification of forest land in terms of inherent capacity to grow crops of industrial wood based on fully stocked natural stands.

Class 1.--Sites capable of producing 165 or more cubic feet per acre annually.

Class 2.--Sites capable of producing 120 to 165 cubic feet per acre annually.

Class 3.--Sites capable of producing 85 to 120 cubic feet per acre annually.

Class 4.--Sites capable of producing 50 to 85 cubic feet per acre annually.

Class 5.--Sites incapable of producing 50 cubic feet per acre annually, but excluding unproductive sites.

Softwoods.--Coniferous trees, usually evergreen, having needles or scale-like leaves.

Pines.--Yellow pine species which include loblolly, longleaf, slash, shortleaf, pitch, Virginia, Table-Mountain, sand, and spruce pine.

Other softwoods.--White pine, hemlock, cypress, eastern redcedar, white-cedar, spruce, and fir.

Stand-size class.--A classification of forest land based on the size class of growing-stock trees on the area.

Sawtimber stands.--Stands at least 16.7 percent stocked with growing-stock trees, with half or more of total stocking in sawtimber or poletimber trees, and with sawtimber stocking at least equal to poletimber stocking.

Poletimber stands.--Stands at least 16.7 percent stocked with growing-stock trees of which half or more of this stocking is in poletimber and sawtimber trees, and with poletimber stocking exceeding that of sawtimber.

Sapling-seedling stands.--Stands at least 16.7 percent stocked with growing-stock trees of which more than half of the stocking is saplings and seedlings.

State, county, and municipal lands.--Lands owned by States, counties, and local public agencies or municipalities, or lands leased to these governmental units for 50 years or more.

Stocking.--The degree of occupancy of land by trees, measured by basal area or the number of trees in a stand and spacing in the stand, compared to a minimum standard, depending on tree size, to fully utilize the growth potential of the land. (See page 12.)

Timber removals.--The net volume of growing-stock trees removed from the inventory by harvesting; cultural operations, such as stand improvement; land clearing, or changes in land use.

Unproductive forest land.--Forest land incapable of producing 20 cubic feet per acre of industrial wood under natural conditions, because of adverse site conditions.

Upper-stem portion.--That part of the main stem or fork of sawtimber trees above the saw-log top to a minimum top diameter of 4.0 inches outside bark or to the point where the main stem or fork breaks into limbs.

Urban and other areas.--Areas within the legal boundaries of cities and towns; suburban areas developed for residential, industrial, or recreational purposes; school yards; cemeteries; roads; railroads; airports; beaches; powerlines and other rights-of-way; or other nonforest land not included in any other specified land use class.

STOCKING STANDARDS

D.B.H. CLASS	MINIMUM NUMBER OF TREES PER ACRE FOR FULL STOCKING	MINIMUM BASAL AREA PER ACRE FOR FULL STOCKING	PERCENT STOCKING ASSIGNED EACH TALLY TREE
SEEDLINGS	600	—	5.0
	560	—	5.4
4	460	—	6.5
6	340	67	5.8
8	240	84	4.8
10	185	85	4.3
12	115	90	4.0
14	90	96	3.8
16	72	101	3.7
18	60	106	3.5
20	51	111	3.5

STOCKING PERCENTAGES BASED ON TALLY AT ALL 10 POINTS OF A 10-POINT CLUSTER OF PLOTS. TREES LESS THAN 5 INCHES D.B.H. WERE TALLIED ON CIRCULAR, 1/300-ACRE PLOTS AT EACH POINT. TREES 5.0 INCHES D.B.H. AND LARGER WERE TALLIED ON VARIABLE PLOTS USING A BASAL AREA FACTOR OF 37.5 AT EACH SAMPLE POINT.

OVERSTOCKED--OVER 130 PERCENT
 FULLY STOCKED--100-130 PERCENT
 MEDIUM STOCKED--60-99 PERCENT
 POORLY STOCKED--16.7-59 PERCENT
 NONSTOCKED--LESS THAN 16.7 PERCENT

CUBIC FEET OF WOOD PER AVERAGE 10-POINT CLUSTER OF PLOTS

D.B.H. CLASS	ALL SPECIES	PINE	OTHER SOFTWOOD	HARDWOOD
4	60.9	61.0	68.2	60.0
6	68.7	68.1	76.0	68.4
8	73.7	73.1	81.4	73.4
10	77.0	76.7	85.2	76.4
12	79.6	79.4	88.2	78.4
14	81.4	81.6	90.4	79.8
16	82.5	83.3	92.3	80.8
18	83.4	84.8	93.8	81.5
20	84.2	86.0	95.1	82.1
22	85.6	87.6	98.3	83.1
AVERAGE	74.4	73.7	84.6	74.3

COUNTY TABLES

THE COUNTY TABLES ARE INTENDED FOR USE IN COMPARING FOREST RESOURCE ESTIMATES FOR GROUPS OF COUNTIES. BECAUSE THE SAMPLING PROCEDURE USED BY THE FOREST SURVEY WAS INTENDED PRIMARILY TO OBTAIN INVENTORY DATA FOR THE STATE AS A WHOLE, INDIVIDUAL COUNTY ESTIMATES HAVE LIMITED AND VARIABLE ACCURACY. AS COUNTY TOTALS ARE BROKEN DOWN BY VARIOUS SUBDIVISIONS, THE POSSIBILITY OF ERROR INCREASES AND IS GREATEST FOR THE SMALLEST ITEMS. THE ORDER OF THIS INCREASE CAN BE COMPUTED WITH THE FORMULA ON PAGE 5.

TABLE 1. FOREST LAND AND WATER AREA OF THE UNITED STATES, 1970.

COUNTY	ALL LAND ¹	FOREST LAND				NONFOREST LAND ²
		TOTAL	COMMERCIAL FOREST	UNPRODUCTIVE FOREST	PRODUCTIVE RESERVED	
BAY	493,392	423,111	421,111	2,030	581	69,670
CALHOUN	363,441	301,612	301,612			61,829
ESCAMBIA	424,754	268,028	268,028	7,087	379	149,260
FRANKLIN	350,738	313,812	313,812	2,440	746	33,740
GADSDEN	330,251	228,519	228,519		694	101,038
GULF	361,423	280,001	280,001	1,149	589	79,684
HOLMES	307,994	187,690	187,690		313	119,991
JACKSON	596,396	298,467	298,467		2,417	295,512
JEFFERSON	388,361	277,030	277,030		2,100	109,231
LEON	436,954	292,981	292,981		1,987	143,986
LIBERTY	536,385	515,494	515,494		1,087	19,804
OKALOOSA	598,961	470,230	470,230	627	632	127,472
SANTA ROSA	653,397	500,356	500,356		325	152,716
WAKULLA	395,507	340,001	340,001		25,174	55,306
WALTON	683,559	541,959	541,959	2,033	176	138,791
WASHINGTON	387,383	301,744	301,744		155	85,484
TOTAL	7,308,896	5,565,382	5,512,061	5,966	37,355	1,743,514

¹ FROM U. S. BUREAU OF THE CENSUS, LAND AND WATER AREA OF THE UNITED STATES, 1970.

² INCLUDES 32,755 ACRES OF WATER ACCORDING TO SURVEY STANDARDS OF AREA CLASSIFICATION, BUT DEFINED BY THE BUREAU OF THE CENSUS AS LAND.

TABLE 2. LANDS OWNED BY INDIVIDUALS, 1972

COUNTY	ALL OWNERSHIPS	NATURAL FOREST	MISCELLANEOUS FEDERAL	STATE	COUNTY AND MUNICIPAL	FOREST INDUSTRY	FARMER	MISCELLANEOUS PRIVATE	
								CORPORATE	NO. VINDUAL
BAY HOUN	421,111	-	21,009	5,147	4,723	749,761	3,434	72,264	1,318
CALAMBA	301,612	-	3,017	8,227	358	150,400	4,114	72,264	45,368
FRANKLIN	313,812	21,982	7,820	9,227	766	47,165	19,920	15,404	1,318
GADSDEN	380,031	-	464	15,124	146	31,249	67,931	37,207	29,703
HOLMES	187,467	-	489	1,144	324	11,849	1,333	48,108	13,471
JACKSON	227,081	-	203	1,144	341	32,334	1,333	15,404	45,368
JEFFERSON	309,194	103,938	5,500	3,739	3,147	134,630	43,734	43,734	43,734
LIBERTY	315,130	156,033	-	59,457	576	172,353	13,204	15,404	15,404
OKALOOSA	400,356	-	309,540	117,110	906	44,743	13,204	15,404	15,404
SANTA ROSA	315,033	134,666	60,467	18,152	24	15,404	15,404	15,404	15,404
WAKULLA	315,033	-	134,666	18,152	24	15,404	15,404	15,404	15,404
WALTON	301,141	-	134,666	18,152	24	15,404	15,404	15,404	15,404
WASHINGTON	301,141	-	134,666	18,152	24	15,404	15,404	15,404	15,404
TOTAL	5,512,061	515,600	478,170	33,324	6,311	1,948,744	650,441	646,680	1,034,745

NOT INCLUDING 91,811 ACRES OF FARMER OWNED AND MISCELLANEOUS PRIVATE LANDS, LEASED TO FOREST INDUSTRY.

TABLE 3. -- AREA OF COMMERCIAL FOREST, AND, BY FOREST-TYPE GROUP AND COUNTY, 1979

COUNTY	ALL TYPE GROUPS	FOREST TYPE GROUP									
		WHITE PINE-HEMLOCK	SPRUCE-FIR	LONGLEAF SLASH	LOBLOLLY SHORTLEAF	OAK PINE	OAK-HICKORY	GUM-CYPRESS	ELM-ASH-COTTONWOOD	MAPLE-BEECH-BIRCH	
BAY	401	-	-	311	23	23	30	28	15	-	
CALHOUN	111	-	-	154	11	33	31	44	15	-	
ESCAMBIA	111	-	-	154	11	33	31	44	15	-	
FRANKLIN	111	-	-	154	11	33	31	44	15	-	
GADSDEN	111	-	-	154	11	33	31	44	15	-	
GULF	111	-	-	154	11	33	31	44	15	-	
HOLMES	111	-	-	154	11	33	31	44	15	-	
JACKSON	111	-	-	154	11	33	31	44	15	-	
JEFFERSON	111	-	-	154	11	33	31	44	15	-	
LEON	111	-	-	154	11	33	31	44	15	-	
LIBERTY	111	-	-	154	11	33	31	44	15	-	
OKALOOSA	111	-	-	154	11	33	31	44	15	-	
SANTA ROSA	111	-	-	154	11	33	31	44	15	-	
WALTON	111	-	-	154	11	33	31	44	15	-	
WASHINGTON	111	-	-	154	11	33	31	44	15	-	
TOTAL	6,513	-	-	2,547	505	59	799	1,117	25	-	

TABLE 4. AREA OF COMMERCIAL FOREST LAND, BY STAND-SIZE CLASS
JANUARY 1, 1979

COUNTY	ALL STANDS	STAND-SIZE CLASS			NONSTOCKED AREAS
		SAWTIMBER	POLETIMBER	SAPLING- SEEDLING	
		ACRES			
BAY	421,111	55,883	85,220	236,247	43,761
CALHOUN	301,612	114,527	67,809	86,449	32,827
ESCAMBIA	268,028	102,178	87,628	67,176	11,046
FRANKLIN	313,812	73,179	45,842	148,737	46,054
GADSDEN	228,519	102,554	39,739	73,522	12,704
GULF	280,001	85,112	40,135	119,824	34,930
HOLMES	187,690	59,840	62,868	51,390	13,592
JACKSON	298,467	81,093	108,400	69,703	39,271
JEFFERSON	277,030	132,120	71,152	55,819	17,939
LEON	290,981	133,585	69,046	78,902	9,448
LIBERTY	515,494	230,966	89,051	145,726	49,751
OKALOOSA	470,230	179,764	82,598	141,550	66,318
SANTA ROSA	500,356	183,384	142,234	148,274	26,464
WAKULLA	315,027	148,563	50,805	93,040	22,619
WALTON	541,959	160,911	137,015	153,749	90,284
WASHINGTON	301,744	69,690	59,941	115,803	56,310
TOTAL	5,512,061	1,913,349	1,239,483	1,785,911	573,318

TABLE 5. AREA OF COMMERCIAL FOREST LAND, BY SITE CLASS AND STAND-SIZE CLASS
JANUARY 1, 1979

TABLE 5.		SITE CLASS			
COUNTY	ALL CLASSES	ACRES			
BAY	301,612		17,572	179,161	224,378
CALHOUN	268,028		60,677	175,247	65,688
ESCAMBIA	313,812		25,878	189,545	52,605
GADSDEN	228,519	7,421	3,538		167,231
GULF	280,001		59,752	133,119	27,546
HOLMES	187,690		10,263	97,119	171,862
JACKSON	298,467		44,473	104,452	38,765
JEFFERSON	277,030	15,230	32,119	211,119	55,210
LEON	290,981	3,106	57,011	341	21,448
LIBERTY	515,494		61,489		85,925
OKALOOSA	470,230		59,442	913	213,139
SANTA ROSA	500,356	3,326	40,773	179	246,302
WAKULLA	315,027	6,001	67,844	167	143,344
WALTON	541,959	3,106	35,428		127,487
	301,744	3,854	27,338	273	187,164
			21,530	165,144	111,701
TOTAL	5,512,061	3,854	47,591	625,127	2,895,694
					1,939,795

TABLE 6. -- AREA 1 - COMMERCE AL - WRESTLING, ETC. STOCKING PERCENTAGE

COUNTY	ALL CLASSES	STOCKING PERCENTAGE ¹				
		OVER 130	100-130	60-99	30-59	LESS THAN 30
BAY	421,111		113,265	155,183	108,902	43,761
CALHOUN	301,612	3,777	70,169	106,490	88,349	32,827
ESCAMBIA	268,028	10,741	62,496	122,498	61,247	11,046
FRANKLIN	313,812	8,127	89,278	120,114	50,239	46,054
GADSDEN	228,519	16,981	72,455	80,401	45,978	12,704
GULF	280,001	10,916	44,930	95,447	93,778	34,930
HOLMES	187,690		39,558	82,088	52,452	13,592
JACKSON	298,467	7,029	40,017	111,143	101,007	39,271
JEFFERSON	277,030	14,940	64,029	125,103	55,019	17,939
LEON	290,981	6,212	82,340	130,030	62,951	9,448
LIBERTY	515,494	16,672	111,381	201,767	55,923	49,751
OKALOOSA	470,230	3,380	70,346	133,392	196,794	66,318
SANTA ROSA	500,356	15,552	115,266	189,154	153,920	26,464
WAKULLA	315,027	7,358	50,819	155,483	78,748	22,619
WALTON	541,959	7,710	58,371	219,753	165,841	90,284
WASHINGTON	301,744		56,627	99,447	89,360	56,310
TOTAL	5,512,061	129,395	1,141,347	2,127,493	1,540,508	573,318

¹ SEE STOCKING STANDARDS ON PAGE 12.

TABLE 1. 1932-33. OF 5447 WHEAT AC. IN 1932 IN WHEAT AC. FIELDS IN 1932. OF 5447 WHEAT AC. FIELDS IN 1932.

COUNTY	SAWMILLER		GROWING STOCK		HARDWOOD		SOFTWOOD		HARDWOOD	
	ALL	PINE	OTHER	PINE	ALL	OTHER	SOFTWOOD	OTHER	SOFTWOOD	HARDWOOD
BAY	10.301	1.42	27.27	107.22	1.16	1.16	1.16	1.16	1.16	1.16
CALHOUN	10.301	1.42	27.27	107.22	1.16	1.16	1.16	1.16	1.16	1.16
ESCAMBIA	10.301	1.42	27.27	107.22	1.16	1.16	1.16	1.16	1.16	1.16
FRANKLIN	10.301	1.42	27.27	107.22	1.16	1.16	1.16	1.16	1.16	1.16
GARSON	10.301	1.42	27.27	107.22	1.16	1.16	1.16	1.16	1.16	1.16
GULF	10.301	1.42	27.27	107.22	1.16	1.16	1.16	1.16	1.16	1.16
HOLMES	10.301	1.42	27.27	107.22	1.16	1.16	1.16	1.16	1.16	1.16
JACKSON	10.301	1.42	27.27	107.22	1.16	1.16	1.16	1.16	1.16	1.16
JEFFERSON	10.301	1.42	27.27	107.22	1.16	1.16	1.16	1.16	1.16	1.16
LEON	10.301	1.42	27.27	107.22	1.16	1.16	1.16	1.16	1.16	1.16
LINCOLN	10.301	1.42	27.27	107.22	1.16	1.16	1.16	1.16	1.16	1.16
OKALOOSA	10.301	1.42	27.27	107.22	1.16	1.16	1.16	1.16	1.16	1.16
SANTA ROSA	10.301	1.42	27.27	107.22	1.16	1.16	1.16	1.16	1.16	1.16
WAKULLA	10.301	1.42	27.27	107.22	1.16	1.16	1.16	1.16	1.16	1.16
WASHINGTON	10.301	1.42	27.27	107.22	1.16	1.16	1.16	1.16	1.16	1.16
TOTAL	14,669.199	8,069.046	1,285.000	2,244.000	4,542.566	3,073.475	1,366.790	1,150.934	642.940	

FACTORS FOR CONVERTING TO CORDS ARE SHOWN ON PAGE 7.

TABLE 8. - $\log_{10} \frac{W}{W_0}$ vs. $\log_{10} t$, $\log_{10} W_0$, and $\log_{10} t_0$. The values of $\log_{10} t_0$ are calculated from the intercept of the linear portion of the curve.

TABLE 10. *Area of Forest Land, by Ownership Class, by Forest Type, by State, 1954*

FOREST TYPE	ALL OWNERSHIPS	NATIONAL FOREST	OWNERSHIP CLASS			
			OTHER PUBLIC	FOREST INDUSTRY	FARMER	MISC. PRIVATE
SOFTWOOD TYPES:						
WHITE PINE-HEMLOCK						
SPRUCE-FIR						
SLASH PINE	747,706	151,523	188,426	164,465	48,882	194,410
LOBLOLLY PINE	1,799,841	178,127	148,240	964,234	70,211	439,029
SHORTLEAF PINE	220,041	3,061	11,874	67,162	46,551	91,393
	33,863		744	9,830	20,183	3,106
SAND PINE						
EASTERN REDCEDAR	163,649	--	72,534	39,237		51,878
POND PINE						
SPRUCE PINE	78,484	50,000		13,466	3,767	11,251
PITCH PINE	9,784				3,608	6,176
TOTAL	3,053,368	382,711	421,818	1,258,394	193,202	797,243
HARDWOOD TYPES:						
CHESTNUT OAK	585,650	21,857	108,277	123,856	118,642	213,018
SOUTHERN SCRUB OAK	427,714	3,150	23,186	72,644	136,563	192,171
OAK-GUM-CYPRESS	302,073	3,150	84,631	61,058	13,924	139,310
ELM-ASH-COTTONWOOD	1,117,779	104,738	76,893	433,832	188,110	314,206
MAPLE-BEECH-BIRCH	25,477					
TOTAL	2,458,693	132,895	292,987	691,390	457,239	644,182
ALL TYPES	5,512,061	515,606	714,805	1,949,784	650,441	1,441,425

TABLE 11. *Area of Forest Land, by Ownership Class, by Stocking Percentage, by State, 1954*

OWNERSHIP CLASSES	ALL CLASSES	STOCKING PERCENTAGE ¹				
		OVER 130	100-130	60-99	6.7-59	LESS THAN 16.7
ACRES						
NATIONAL FOREST	515,606	17,506	90,849	220,092	132,021	55,138
OTHER PUBLIC	714,805	15,941	110,886	225,524	269,729	92,725
FOREST INDUSTRY	1,949,784	42,967	484,449	758,239	462,662	201,467
FARMER	650,441	506	123,323	111,111	111,111	111,111
MISC. PRIVATE	1,681,425	52,475	331,840	614,352	480,154	202,604
ALL OWNERSHIPS	5,512,061	129,395	1,141,347	2,127,493	1,540,508	573,318
SEE STOCKING STANDARDS ON PAGE 12						

SEE STOCKING STANDARDS ON PAGE 12

TABLE 1. -- *Timber and Dead Trees by Class and Species*

CLASS OF TIMBER	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
SAWTIMBER TREES:					
SAW-LOG PORTION	2,832,895	1,533,450	255,594	658,773	385,078
UPPER-STEM PORTION	303,330	133,344	22,226	93,251	54,509
TOTAL	3,136,225	1,666,794	277,820	752,024	439,587
POLETIMBER TREES	1,406,741	729,996	74,422	398,970	203,353
ALL GROWING-STOCK TREES	4,542,966	2,396,790	352,242	1,150,994	642,940
ROUGH TREES:					
SAWTIMBER-SIZE TREES	226,936	7,473	1,415	92,981	115,028
POLETIMBER-SIZE TREES	288,096	1,473	9,216	126,257	140,561
TOTAL	515,032	19,473	20,732	219,238	255,589
ROTTEN TREES:					
SAWTIMBER-SIZE TREES	70,787	389	15,395	40,668	14,335
POLETIMBER-SIZE TREES	11,766	-	1,499	6,493	3,774
TOTAL	82,553	389	16,894	47,161	18,109
SALVABLE DEAD TREES:					
SAWTIMBER-SIZE TREES	1,355	1,245	110	-	-
POLETIMBER-SIZE TREES	761	729	32	-	-
TOTAL	2,116	1,974	142	-	-
TOTAL, ALL TIMBER	5,142,667	2,418,626	390,010	1,417,393	916,638

TABLE 13. NUMBER OF GROWING STOCK TREES ON COMMERCIAL FOREST LAND, BY SPECIES AND DIAMETER CLASS, 1979

SPECIES	ALL CLASSES	DIAMETER CLASS (INCHES AT BREAST HEIGHT)										29.0 AND LARGER
		5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9		
THOUSAND TREES												
SOFTWOOD:												
LONGLEAF PINE	78,880	23,199	18,008	17,901	12,425	5,825	1,194	215	72	41	-	
SLASH PINE	168,863	93,338	42,148	17,224	8,444	4,295	2,351	884	404	266	9	
SHORTLEAF PINE	5,473	3,447	1,093	685	467	260	92	54	26	21	-	
LOBLOLLY PINE	23,883	3,566	4,593	3,522	3,338	1,716	855	522	260	254	-	
POND PINE	2,381	3,154	1,793	1,084	3,752	1,351	157	31	51	9	-	
VIRGINIA PINE	-	-	-	-	-	-	-	-	-	-	-	
PITCH PINE	-	-	-	-	-	-	-	-	-	-	-	
TABLE-MOUNTAIN PINE	-	-	-	-	-	-	-	-	-	-	-	
SPRUCE PINE	1,812	478	159	438	306	21	173	161	47	29	-	
SAND PINE	17,334	9,801	3,932	1,946	788	386	165	16	-	-	-	
EASTERN WHITE PINE	-	-	-	-	-	-	-	-	-	-	-	
EASTERN HEMLOCK	-	-	-	-	-	-	-	-	-	-	-	
SPRUCE AND FIR	6,886	2,937	1,168	608	509	429	374	336	212	246	47	
BALDCYPRESS	24,085	8,939	5,856	3,801	2,432	1,466	756	281	206	150	8	
POND CYPRESS	5,625	1,404	1,492	1,111	1,493	509	254	116	24	27	-	
CEDARS	-	-	-	-	-	-	-	-	-	-	-	
TOTAL SOFTWOODS	358,915	152,653	80,197	48,340	30,848	15,462	6,400	2,616	1,302	1,043	64	
HARDWOOD:												
SELECT WHITE OAKS	1,492	493	246	171	102	53	15	17	61	8	-	
SELECT RED OAKS	-	-	-	-	-	-	-	-	-	11	-	
CHESTNUT OAK	8,300	2,474	732	377	569	321	200	50	147	183	21	
OTHER WHITE OAKS	89,470	15,273	8,738	6,124	3,361	1,843	1,039	390	437	552	71	
OTHER RED OAKS	4,313	1,189	1,161	627	393	243	113	107	46	31	-	
HICKORY	-	-	-	-	-	-	-	-	-	-	-	
YELLOW BIRCH	-	-	-	-	-	-	-	-	-	-	-	
HARD MAPLE	4,141	2,220	716	445	75	21	13	163	-	34	-	
SOFT MAPLE	1,181	-	-	-	322	161	123	150	11	33	5	
BEECH	13,230	5,035	3,069	2,011	1,373	773	531	150	155	106	81	
SWEETGUM	24,642	7,440	10,694	6,993	6,095	4,491	2,320	1,355	825	947	-	
TUPELO AND FLAMEGUM	4,111	1,105	-	950	1,345	-	-	-	122	112	-	
ASH	-	-	-	-	-	-	-	-	-	-	-	
COTTONWOOD	-	-	-	-	-	-	-	-	-	-	-	
BASSWOOD	1,223	1,092	656	515	207	101	41	57	114	20	-	
YELLOW-POPPAR	1,360	1,340	2,634	4,655	3,622	1,321	82	43	265	138	14	
BAY AND MAGNOLIA	408	641	-	59	6	-	14	23	12	15	-	
BLACK CHERRY	-	-	-	-	-	-	-	-	-	-	-	
BLACK WALNUT	-	-	-	-	-	-	-	-	-	-	-	
STAMORE	179	-	-	-	-	-	-	-	-	-	-	
BLACK LOCUST	-	-	321	222	153	113	41	11	11	21	4	
FLAM	1,711	853	394	222	153	113	41	11	11	21	-	
OTHER EASTERN HARDWOODS	1,073	1,643	-	-	-	-	-	-	-	-	-	
TOTAL HARDWOODS	144,411	61,491	35,434	22,930	12,072	6,293	3,422	2,638	2,280	2,227	201	
ALL SPECIES	503,326	214,144	115,631	71,270	42,920	21,755	9,822	5,254	3,582	3,270	265	

TABLE 4. ALL SPECIES IN COMMERCIAL, CHEST AND, BY SPECIES AND D. AMER CLASS, 1979

SPECIES	ALL CLASSES		DIAMETER CLASS				NOTES AT BREAST				HEIGHT		21.0-28.9		29.0 AND LARGER
	5.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0 AND LARGER	21.0-28.9	29.0 AND LARGER				
SOFTWOOD:															
LONGLEAF PINE	807,058	58,474	114,814	201,974	277,628	150,527	31,338	9,742	3,516	3,516	1,388	3,516	1,388	3,516	1,388
SLASH PINE	1,051,028	394,599	1,411,117	1,251,441	1,647,909	115,390	86,238	41,596	24,794	24,794	1,429	24,794	1,429	24,794	1,429
SHORTLEAF PINE	24,030	1,000	1,258	6,864	11,593	11,390	31,656	2,480	1,429	1,429	1,429	1,429	1,429	1,429	1,429
LOBLOLLY PINE	231,457	15,914	20,031	38,364	61,364	48,952	31,656	2,480	1,429	1,429	1,429	1,429	1,429	1,429	1,429
POND PINE	58,119	7,680	7,442	10,141	11,513	9,476	5,092	1,306	1,306	1,306	1,306	1,306	1,306	1,306	1,306
VIRGINIA PINE															
PITCH PINE															
TABLE-MOUNTAIN PINE															
SPRUCE PINE	34,023	7,198	1,510	4,685	5,329	4,59	6,869	8,529	2,116	2,116	2,116	2,116	2,116	2,116	2,116
SAND PINE	90,300	34,154	22,576	19,165	11,167	8,565	4,889	1,590	1,590	1,590	1,590	1,590	1,590	1,590	1,590
EASTERN WHITE PINE															
EASTERN HEMLOCK															
SPRUCE AND FIR															
BALDOCYPRESS	113,664	8,789	8,576	1,509	8,525	10,522	11,477	14,263	10,511	10,511	13,819	10,511	13,819	10,511	13,819
POND CYPRESS	211,248	21,078	37,079	37,533	30,144	30,985	20,413	4,417	10,927	10,927	3,744	10,927	3,744	10,927	3,744
CEDARS	64,556	5,096	8,519	11,701	10,479	13,093	8,513	4,517	1,648	1,648	1,648	1,648	1,648	1,648	1,648
TOTAL SOFTWOODS	3,805,622	354,032	473,163	512,100	550,211	395,565	216,600	117,765	12,275	12,275	85,958	12,275	85,958	12,275	85,958
HARDWOOD:															
SELECT WHITE OAKS	25,293	1,312	1,873	2,251	4,117	5,301	5,355	691	3,405	3,405	1,019	3,405	1,019	3,405	1,019
SELECT RED OAKS	159,550	11,875	11,055	14,922	13,421	17,850	18,331	19,150	11,984	11,984	8,347	11,984	8,347	11,984	8,347
CHESTNUT OAK	443,916	42,514	54,194	64,433	61,469	53,699	40,865	37,030	25,914	25,914	15,114	25,914	15,114	25,914	15,114
OTHER WHITE OAKS	46,982	3,170	6,542	6,336	5,207	3,965	7,135	5,458	2,974	2,974	1,995	2,974	1,995	2,974	1,995
HICKORY															
YELLOW BIRCH	231	231	407	1,335	1,452	843	818	1,582	3,192	3,192	1,123	3,192	1,123	3,192	1,123
HARD MAPLE	5,352	10,520	8,536	8,338	6,334	6,949	6,877	2,902	703	703	1,267	703	1,267	703	1,267
SOFT MAPLE	11,319	46,319	46,319	46,319	46,319	46,319	46,319	46,319	46,319	46,319	46,319	46,319	46,319	46,319	46,319
BEECH	16,139	12,268	19,260	23,260	28,260	23,260	20,260	8,334	10,334	10,334	1,175	10,334	1,175	10,334	1,175
SWEETGUM	74,322	80,870	82,382	88,382	118,382	98,382	11,838	61,954	46,532	46,532	17,362	46,532	17,362	46,532	17,362
TUPLO AND BLACKGUM	81,356	10,639	10,586	12,084	118,035	9,511	9,511	6,534	9,534	9,534	1,717	9,534	1,717	9,534	1,717
ASH															
COTTONWOOD															
BASSWOOD	42,779	3,065	4,568	5,573	12,366	4,743	1,339	2,254	1,662	1,662	2,170	1,662	2,170	1,662	2,170
YELLOW POPLAR	369,133	47,065	56,586	62,586	65,982	48,654	27,770	21,954	15,601	15,601	449	15,601	449	15,601	449
BAY AND MAGNOLIA															
BLACK CHERRY															
BLACK WALNUT															
SYCAMORE	5,555		686		620		784	1,295	624	624	1,544	624	1,544	624	1,544
BLACK LOCUST															
ELM	12,092	3,499	1,890	4,411	2,939	3,412	533	6,393	1,614	1,614	995	1,614	995	1,614	995
OTHER EASTERN HARDWOODS	156,082	43,954	29,517	25,316	33,339	11,701	10,992	6,393	5,845	5,845	2,262	5,845	2,262	5,845	2,262
TOTAL HARDWOODS	3,334,031	270,463	289,323	319,622	347,215	296,516	221,714	177,549	141,890	141,890	212,176	141,890	212,176	141,890	212,176
ALL SPECIES	5,140,551	624,495	762,486	841,722	897,426	692,081	438,214	295,314	214,165	214,165	298,134	214,165	298,134	214,165	298,134

TABLE 15. *Quantifying Species in Commercial Forest Land, by Species and Diameter Class, 1979*

SPECIES	ALL CLASSES	DIAMETER CLASS (INCHES) AT BREAST HEIGHT										29.0 AND LARGER	
		5.0 6.9	7.0 8.9	9.0 10.9	11.0 12.9	13.0 14.9	15.0 16.9	17.0 18.9	19.0 20.9	21.0 28.9			
THOUSAND LOGS FEET													
SOFTWOOD:													
LONGLEAF PINE	804,084	58,247	112,834	201,536	227,633	50,138	37,338	3,742	3,516	3,100			
SLASH PINE	1,086,594	203,116	239,810	185,441	164,709	115,396	86,238	41,596	25,228	23,672			1,388
SHORTLEAF PINE	57,812	7,000	6,858	6,669	11,091	12,390	3,111	2,480	1,736	1,429			
LOBLOLLY PINE	27,549	15,140	25,617	37,853	50,484	44,888	31,666	25,270	15,848	20,752			
POND PINE	55,835	7,070	8,704	9,634	11,945	8,676	5,096	1,306	2,545	20,719			
VIRGINIA PINE													
PITCH PINE													
TABLE-MOUNTAIN PINE													
SPRUCE PINE	33,059	1,188	1,345	4,239	5,839	459	6,859	8,529	2,738	2,116			
SAND PINE	86,847	21,407	21,963	18,868	11,112	8,665	3,281						
EASTERN WHITE PINE													
EASTERN HEMLOCK													
SPRUCE AND FIR													
BALDOCYPRESS	103,631	8,789	7,059	6,032	7,113	12,539	11,477	14,263	10,671	19,489			7,720
POND CYPRESS	187,925	17,673	29,158	31,936	34,996	21,439	16,666	8,193	9,281	8,901			2,464
CEDARS	60,686	3,447	5,631	11,338	10,004	11,563	8,630	4,577	1,179	1,648			
TOTAL SOFTWOODS	2,749,032	343,376	461,042	513,819	545,376	390,543	513,241	116,495	71,742	81,826			11,572
HARDWOOD:													
SELECT WHITE OAKS	22,488	846	1,156	1,368	3,889	5,301	5,755	691	3,405	557			
SELECT RED OAKS	825									825			
CHESNUT OAK													
OTHER WHITE OAKS	39,401	5,937	3,997	6,983	6,385	13,433	11,272	12,650	7,637	14,382			5,090
OTHER RED OAKS	404,730	37,391	49,321	59,343	55,430	51,621	39,414	47,914	23,597	46,474			12,563
HICKORY	43,425	1,533	5,321	5,343	4,790	5,162			3,974	1,995			
YELLOW BIRCH													
YELLOW MAPLE	4,504		3,761	5,454	1,140	863	4,367	1,989		3,643			
HARD MAPLE	30,223	6,642	4,339	5,454	5,241	5,215	4,117	3,563	733	3,661			
SOFT MAPLE	99,360	13,772	12,439	21,190	1,180	2,010	1,490	5,016	18,591	8,892			988
BEECH	177,060	54,018	59,190	62,613	8,053	8,322	6,142	5,016	40,467	63,488			764
WHITE AND BLACK WALNUT	99,160	3,451	3,453	6,619	6,347	1,178			1,611				9,478
ASH	1,100												
COTTONWOOD													
BASWOOD													
YELLOW PINE	41,100	3,434	4,115	6,661	6,039	4,743	1,119	3,264	6,819	1,662			
YELLOW PINE	200,936	35,514	44,576	46,430	64,956	39,016	31,142	5,866	13,681	9,294			2,170
BAY AND WALNUT													
BLACK CHERRY													
BLACK WALNUT													
SYCAMORE	5,556		686		600		794	1,295	624	1,544			
BLACK OAK													
ELM	15,501	1,677	1,800	2,923	1,760	3,409	583	2,945	689	1,614			995
OTHER EASTERN HARDWOOD	6,661	3,203	2,699	3,113	5,164	1,831	3,666		1,139				
TOTAL HARDWOOD	1,713,931	164,548	201,037	236,738	290,502	248,101	341,191	151,270	119,942	165,557			32,048
ALL SPECIES	4,462,963	507,924	662,079	750,557	835,878	638,644	854,432	267,765	191,684	247,383			43,620

TABLE 17. - NET ANNUAL GROWTH AND REMOVALS OF GROWING STOCK ON COMMERCIAL FOREST LAND, BY SPECIES, 1978

SPECIES	NET ANNUAL GROWTH	ANNUAL TIMBER REMOVALS
- THOUSAND BOARD FEET -		
SOFTWOOD:		
YELLOW PINES	170,553	133,038
EASTERN WHITE PINE	-	-
SPRUCE AND FIR	-	-
CYPRESS	6,472	799
OTHER EASTERN SOFTWOODS	2,423	321
TOTAL SOFTWOODS	179,448	134,158
HARDWOOD:		
SELECT WHITE AND RED OAKS	536	226
OTHER WHITE AND RED OAKS	21,915	11,581
HICKORY	1,410	2,099
YELLOW BIRCH	-	-
HARD MAPLE	130	238
SWEETGUM	5,300	4,433
ASH, WALNUT, AND BLACK CHERRY	1,668	2,257
YELLOW-POPLAR	1,771	1,139
TUPELO AND BLACKGUM	12,998	4,552
BAY AND MAGNOLIA	7,265	3,458
OTHER EASTERN HARDWOODS	3,977	985
TOTAL HARDWOODS	56,970	30,968
ALL SPECIES	236,418	65,126

TABLE 18. - NET ANNUAL GROWTH AND REMOVALS OF SAWTIMBER ON COMMERCIAL FOREST LAND, BY SPECIES, 1978

SPECIES	NET ANNUAL GROWTH	ANNUAL TIMBER REMOVALS
- THOUSAND BOARD FEET -		
SOFTWOOD:		
YELLOW PINES	633,581	461,385
EASTERN WHITE PINE	-	-
SPRUCE AND FIR	-	-
CYPRESS	29,519	3,319
OTHER EASTERN SOFTWOODS	11,833	1,189
TOTAL SOFTWOODS	674,933	465,893
HARDWOOD:		
SELECT WHITE AND RED OAKS	1,944	442
OTHER WHITE AND RED OAKS	81,600	35,872
HICKORY	6,277	9,190
YELLOW BIRCH	-	-
HARD MAPLE	425	954
SWEETGUM	18,974	11,854
ASH, WALNUT, AND BLACK CHERRY	8,754	10,469
YELLOW-POPLAR	8,111	5,073
TUPELO AND BLACKGUM	48,388	18,823
BAY AND MAGNOLIA	20,177	11,714
OTHER EASTERN HARDWOODS	9,597	3,191
TOTAL HARDWOODS	205,069	107,582
ALL SPECIES	880,002	573,475

TABLE 19. *MORTALITY OF GROWING STOCK AND SAWTIMBER ON COMMERCIAL FOREST LAND, BY SPECIES, 1978*

SPECIES	GROWING STOCK	SAWTIMBER
	<i>THOUSAND CUBIC FEET</i>	<i>THOUSAND BOARD FEET</i>
SOFTWOOD:		
YELLOW PINES	15,921	50,217
EASTERN WHITE PINE	--	--
SPRUCE AND FIR	--	--
CYPRESS	456	2,016
OTHER EASTERN SOFTWOODS	693	2,669
TOTAL SOFTWOODS	17,070	54,902
HARDWOOD:		
SELECT WHITE AND RED OAKS	273	1,267
OTHER WHITE AND RED OAKS	6,330	20,312
HICKORY	371	1,155
YELLOW BIRCH	--	--
HARD MAPLE	--	--
SWEETGUM	1,852	6,976
ASH, WALNUT, AND BLACK CHERRY	490	1,117
YELLOW-POPLAR	169	1,019
TUPELO AND BLACKGUM	2,894	9,589
BAY AND MAGNOLIA	2,589	7,611
OTHER EASTERN HARDWOODS	2,059	6,659
TOTAL HARDWOODS	17,027	55,705
ALL SPECIES	34,097	110,607

TABLE 20. -- VOLUME OF ALL LIVE TREES AND GROWING STOCK ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1979

OWNERSHIP CLASS	ALL LIVE TREES					GROWING STOCK				
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
					THOUSAND CUBIC FEET					
NATIONAL FOREST	581,603	353,725	81,485	116,925	29,468	535,005	352,425	66,337	95,188	21,055
OTHER PUBLIC	764,880	477,458	57,040	127,559	102,823	669,870	473,680	53,608	97,179	45,403
FOREST INDUSTRY	1,485,556	639,665	118,929	496,314	230,648	1,305,215	635,445	104,400	406,872	158,498
FARMER	725,853	353,102	34,134	227,847	210,776	623,427	248,246	32,658	180,153	162,370
MISCELLANEOUS PRIVATE	1,582,653	692,702	98,280	448,748	342,923	1,409,449	686,994	95,239	371,602	255,614
ALL OWNERSHIPS	5,140,551	2,416,652	389,868	1,417,393	916,638	4,542,966	2,396,790	352,242	1,150,994	642,940

THOUSAND CUBIC FEET

TABLE 21. -- VOLUME OF SAWTIMBER ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1979

OWNERSHIP CLASS	SMALL SAWTIMBER¹					LARGE SAWTIMBER²				
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
NATIONAL FOREST	1,192,721	989,124	122,440	67,848	14,309	570,216	268,457	77,767	165,312	58,780
OTHER PUBLIC	1,626,258	1,382,440	166,623	111,105	48,121	883,436	472,850	155,911	183,020	71,715
FOREST INDUS-RY	2,157,658	1,330,449	180,955	479,521	161,426	1,802,322	520,704	150,276	741,438	395,374
FARMER	1,064,019	585,800	61,849	234,477	181,893	1,003,361	413,000	60,239	184,583	271,391
MISCELLANEOUS PRIVATE	2,404,980	1,590,986	146,477	432,812	133,685	2,003,963	413,124	92,223	645,883	624,711
ALL OWNERSHIPS	8,351,450	5,875,899	498,284	1,325,913	651,454	6,213,129	3,184,146	687,416	1,920,206	1,421,971

¹ VOLUME OF SAWTIMBER TREES LESS THAN 15.0 INCHES AT D.B.H.
² VOLUME OF SAWTIMBER TREES 15.0 INCHES AND LARGER AT D.B.H.

TABLE 22.--NET ANNUAL GROWTH AND REMOVALS OF GROWN STOCK ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1978

OWNERSHIP CLASS	NET ANNUAL GROWTH				ANNUAL TIMBER REMOVALS			
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD
THOUSAND CUBIC FEET								
NATIONAL FOREST	25,705	20,425	1,311	3,346	723	8,385	8,321	64
OTHER PUBLIC	30,190	24,347	1,574	3,286	1,983	10,964	9,587	96
FOREST INDUSTRY	75,194	56,558	3,415	9,400	5,831	60,636	49,184	912
FARMER	28,917	15,318	664	5,316	7,619	18,054	19,231	48
MISCELLANEOUS PRIVATE	26,412	53,905	2,031	10,053	10,423	27,087	46,715	-
ALL OWNERSHIPS	236,418	170,553	8,895	30,401	26,569	165,126	133,038	1,120
								14,274
								16,694

TABLE 23.--NET ANNUAL GROWTH AND REMOVALS OF SAWTIMBER ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1978

OWNERSHIP CLASS	NET ANNUAL GROWTH				ANNUAL TIMBER REMOVALS			
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD
THOUSAND BOARD FEET								
NATIONAL FOREST	113,460	95,953	4,982	8,675	3,850	25,877	25,533	344
OTHER PUBLIC	144,939	120,470	11,108	7,369	5,992	41,180	36,960	449
FOREST INDUSTRY	219,399	144,133	10,727	38,639	25,900	210,496	166,358	3,715
FARMER	119,672	78,009	3,293	14,976	23,394	100,480	70,606	-
MISCELLANEOUS PRIVATE	292,532	195,016	11,242	36,003	40,271	195,442	161,928	-
ALL OWNERSHIPS	880,002	633,581	41,352	105,662	99,407	573,475	461,385	4,508
								49,331
								58,251

TABLE 24. OWNERSHIP OF FOREST LAND, BY SPECIES GROUP, AND BY FOREST TYPE, 1909-1919. MAJOR FOREST TYPE, AND SPECIES GROUP, 1909.

FOREST TYPE, SPECIES GROUP, AND CLASS OF MATERIAL	ALL OWNERSHIP	NATIONAL FOREST	OTHER PUR.	FOREST	FARMER	MISC. PRIVATE
	BOARD FEET	BOARD FEET	BOARD FEET	BOARD FEET	BOARD FEET	BOARD FEET
PINE TYPES:						
GROWING STOCK:						
SOFTWOOD	2,090	811	3,405	1,245	3,182	2,014
HARDWOOD	61	32	113	18	216	40
TOTAL	2,151	843	3,518	1,263	3,398	2,054
OTHER TIMBER:						
SOFTWOOD	--	6	--	3	--	17
HARDWOOD	16	9	--	19	--	--
TOTAL	--	15	--	22	--	--
OAK-PINE TYPES:						
GROWING STOCK:						
SOFTWOOD	2,395	437	1,676	1,175	1,324	1,719
HARDWOOD	336	155	160	463	466	229
TOTAL	2,731	592	1,836	1,638	1,790	1,948
OTHER TIMBER:						
SOFTWOOD	--	12	--	22	--	16
HARDWOOD	131	15	--	126	--	127
TOTAL	--	27	--	148	--	143
UPLAND HARDWOOD TYPES:						
GROWING STOCK:						
SOFTWOOD	308	245	391	153	558	112
HARDWOOD	1,204	559	363	1,153	1,777	1,322
TOTAL	1,512	804	754	1,306	2,335	1,434
OTHER TIMBER:						
SOFTWOOD	--	43	--	90	--	2
HARDWOOD	114	--	--	120	--	--
TOTAL	--	43	--	210	--	122
LOWLAND HARDWOOD TYPES:						
GROWING STOCK:						
SOFTWOOD	1,337	632	3,602	1,538	3,416	1,541
HARDWOOD	1,114	540	3,602	1,155	3,416	1,288
TOTAL	2,451	1,172	7,204	2,693	6,832	2,829
OTHER TIMBER:						
SOFTWOOD	--	124	--	10	--	8
HARDWOOD	336	155	--	114	--	15
TOTAL	--	279	--	124	--	23
ALL TYPES:						
GROWING STOCK:						
SOFTWOOD	1,186	1,551	1,734	1,141	1,558	1,521
HARDWOOD	1,204	1,099	1,263	1,263	1,558	1,322
TOTAL	2,390	2,650	2,997	2,404	3,116	2,843
OTHER TIMBER:						
SOFTWOOD	--	124	--	10	--	8
HARDWOOD	131	15	--	126	--	127
TOTAL	--	239	--	236	--	149
ALL TIMBER	2,390	2,889	3,000	2,640	3,116	3,000

ROUGH AND BOTTEN TREES

TABLE 25. LAND AREA, BY CLASS, MAJOR FOREST TYPE, AND SURVEY COMPLETION DATE, 1959, 1969, AND 1979

LAND USE CLASS	SURVEY COMPLETION DATE			CHANGE 1969-1979
	1959	1969	1979	
ACRES				
FOREST LAND:				
COMMERCIAL FOREST LAND:				
PINE AND OAK-PINE TYPES	3,282,200	3,690,344	3,639,018	- 51,326
HARDWOOD TYPES	2,464,300	2,087,979	1,873,043	-214,936
TOTAL	5,746,500	5,778,323	5,512,061	-266,262
NONCOMMERCIAL FOREST LAND:				
PRODUCTIVE-RESERVED	4,100	6,100	37,355	+ 31,255
UNPRODUCTIVE	17,000	10,966	15,966	+ 5,000
TOTAL	21,100	17,066	53,321	+ 36,255
NONFOREST LAND:				
CROPLAND	845,700	721,103	809,635	+ 88,532
PASTURE AND RANGE	188,700	286,642	331,956	+ 45,314
OTHER	421,900	473,007	569,168	+ 96,161
TOTAL	1,456,300	1,480,752	1,710,759	+230,007
ALL LAND'	7,223,900	7,276,141	7,276,141	--
EXCLUDES ALL WATER AREAS.				

TABLE 26. -- VOLUME OF SAWTIMBER, GROWING STOCK, AND ALL LIVE TIMBER ON COMMERCIAL FOREST LAND, BY SPECIES GROUP, DIAMETER CLASS, AND SURVEY COMPLETION DATE

SPECIES GROUP	YEAR	ALL CLASSES	DIAMETER CLASS (INCHES AT BREAST HEIGHT)									
			5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0 AND LARGER	
			SAWTIMBER IN TWO-SAM BOARD FEET									
SOFTWOOD	1959	5,496,254	--	--	1,444,084	1,535,894	1,119,951	641,793	383,918	182,490	208,496	
	1969	7,418,536	--	--	1,759,723	2,048,810	1,516,774	903,136	591,423	247,290	351,429	
	1979	9,345,745	--	--	1,955,700	2,509,580	2,011,902	1,174,470	671,835	430,433	594,824	
	1959	4,045,815	--	--	--	717,154	815,196	746,304	578,775	430,401	760,385	
HARDWOOD	1969	4,596,753	--	--	--	777,258	851,138	888,177	713,172	498,212	869,756	
	1979	5,312,444	--	--	--	980,675	956,532	826,396	743,746	627,512	1,144,623	
GROWING STOCK IN TWO-SAM BOARD FEET												
SOFTWOOD	1959	1,767,825	214,598	279,402	380,022	333,145	217,110	116,520	63,277	30,415	32,736	
	1969	2,275,909	301,972	408,232	463,085	445,200	294,405	153,948	102,555	41,112	35,178	
	1979	2,745,035	343,376	461,042	513,819	445,376	290,543	133,341	116,495	71,742	93,398	
	1959	1,446,821	133,863	186,254	214,682	212,427	203,086	166,363	116,892	82,022	121,282	
HARDWOOD	1969	1,531,537	145,913	198,745	309,993	259,555	211,894	157,627	141,045	95,524	160,165	
	1979	1,792,934	164,548	201,027	336,738	290,502	16,111	151,197	151,270	118,942	197,605	
ALL LIVE TIMBER IN TWO-SAM BOARD FEET												
SOFTWOOD	1959	1,803,160	221,392	282,148	386,135	336,115	213,819	118,041	63,957	30,912	35,799	
	1969	2,322,041	311,811	418,715	473,100	448,161	294,154	146,400	102,472	41,544	36,994	
	1979	2,802,520	354,012	473,122	522,100	450,111	295,543	146,500	117,472	72,175	104,904	
	1959	1,031,586	219,590	267,671	289,890	243,491	142,744	200,202	136,475	27,062	179,186	
HARDWOOD	1969	1,031,339	339,221	385,629	483,611	410,211	292,256	211,411	164,113	112,450	204,972	
	1979	1,234,001	370,463	489,323	513,511	441,111	292,256	211,411	164,113	112,450	204,972	

TO PROVIDE A BASIS FOR VALID COMPARISONS, ADJUSTMENTS HAVE BEEN MADE TO ALLOW FOR DIFFERENCES IN VOLUME TABLES AND SAWTIMBER REPLICATIONS USED IN PREVIOUS SURVEYS.



(continued, Southern M)

1980. Land Use and Land Cover in the Southern United States, 1980. USDA, Forest Service, Washington, D.C. (Forest Service, Southern Region, Asheville, NC)

The Forest Service has been conducting a series of land use and land cover inventories in the Southern United States since 1960. The most recent inventory was completed in 1980. The results of this inventory are presented in this report. The inventory was conducted using aerial photography and ground truthing. The results show that the forest cover in the Southern United States has increased significantly since 1960. The increase is due to a combination of factors, including reforestation, afforestation, and the conversion of agricultural land to forest land.

USDA, Forest Service, Southern Region, Asheville, NC

(continued, Southern M)

1980. Land Use and Land Cover in the Southern United States, 1980. USDA, Forest Service, Washington, D.C. (Forest Service, Southern Region, Asheville, NC)

The Forest Service has been conducting a series of land use and land cover inventories in the Southern United States since 1960. The most recent inventory was completed in 1980. The results of this inventory are presented in this report. The inventory was conducted using aerial photography and ground truthing. The results show that the forest cover in the Southern United States has increased significantly since 1960. The increase is due to a combination of factors, including reforestation, afforestation, and the conversion of agricultural land to forest land.

USDA, Forest Service, Southern Region, Asheville, NC



The Forest Service, U.S. Department of Agriculture, is dedicated to the principle of multiple use management of the Nation's forest resources for sustained yields of wood, water, forage, wildlife, and recreation. Through forestry research, cooperation with the States and private forest owners, and management of the National Forests and National Grasslands, it strives—as directed by Congress—to provide increasingly greater service to a growing Nation.

USDA policy does not permit discrimination because of race, color, national origin, sex or religion. Any person who believes he or she has been discriminated against in any USDA-related activity should write immediately to the Secretary of Agriculture, Washington, D.C. 20250.

Forest Statistics for Northeast Florida, 1980



FOREWORD

This report highlights the principal findings of the fifth forest survey of Northeast Florida. Fieldwork began in June 1979 and was completed in December 1979. Four previous surveys, completed in 1934, 1948, 1959, and 1970, provide statistics for measuring changes and trends over the past 46 years. The primary emphasis of this report is on the changes and trends since 1970. Previously reported figures have been adjusted to provide the best estimate of change.

Renewable Resources Evaluation (formerly Forest Survey) is authorized by the Forest and Rangeland Renewable Resources Research Act of 1978. The survey is a continuing, nationwide undertaking by the regional experiment stations of the Forest Service, USDA. In Florida, Georgia, North Carolina, South Carolina, and Virginia, Renewable Resources Evaluation is administered through the Southeastern Forest Experiment Station, with headquarters in Asheville, North Carolina. The primary objective of the survey is to periodically inventory and evaluate forest and related resources. These inventories provide information on the extent and condition of forest lands, volume of timber, and rates of timber growth and renewal. The data and evaluations help provide a basis for formulating forest policies and programs and for the orderly development and use of the resources.

The 21-county area covered by this report is one of four survey units in Florida. A similar report, USDA Forest Service Resource Bulletin SE-52, has been issued for Northwest Florida. Comparable reports for the other two units will be issued as processing of the Statewide survey progresses. When completed, this survey will provide updated statistics on the forest resource for all of Florida.

The Southeastern Station gratefully acknowledges the cooperation and assistance provided by the Division of Forestry, Florida Department of Agriculture and Consumer Services, in collecting the field data. Appreciation is also expressed for the excellent cooperation of other public agencies, forest industry, and private landowners in providing information and access to the sample locations.



JOE P. McCLURE
Project Leader

December 1980

Southeastern Forest Experiment Station
Asheville, North Carolina

Forest Statistics
for
Northeast Florida,
1980

by

Raymond M. Sheffield, Resource Analyst
Asheville, North Carolina

CONTENTS

	<i>Page</i>
HIGHLIGHTS	1
HOW THE INVENTORY IS MADE.....	3
RELIABILITY OF THE DATA.....	4
DEFINITIONS OF TERMS.....	6
 COUNTY TABLES	
1. Area, by land class.....	13
2. Area of commercial forest land, by ownership class.....	14
3. Area of commercial forest land, by forest-type group	15
4. Area of commercial forest land, by stand-size class.....	16
5. Area of commercial forest land, by site class.....	16
6. Area of commercial forest land, by stocking classes of growing-stock trees.....	17
7. Volume of sawtimber and growing stock on commercial forest land, by species group.....	18
8. Net annual growth of sawtimber and growing stock on commercial forest land, by species group.....	19
9. Annual removals of sawtimber and growing stock on commercial forest land, by species group	20
 UNIT TABLES	
10. Area of commercial forest land, by forest type and ownership class.....	21
11. Area of commercial forest land, by ownership and stocking classes of growing-stock trees.....	21
12. Volume of timber on commercial forest land, by class and species group.....	22
13. Number of growing-stock trees on commercial forest land, by species and diameter class	23
14. Volume of all live trees on commercial forest land, by species and diameter class	24
15. Volume of growing stock on commercial forest land, by species and diameter class	25
16. Volume of sawtimber on commercial forest land, by species and diameter class	26
17. Net annual growth and removals of growing stock on commercial forest land, by species	27
18. Net annual growth and removals of sawtimber on commercial forest land, by species	27
19. Mortality of growing stock and sawtimber on commercial forest land, by species	28
20. Volume of all live trees and growing stock on commercial forest land, by ownership class and species group	29
21. Volume of sawtimber on commercial forest land, by ownership class and species group	29
22. Net annual growth and removals of growing stock on commercial forest land, by ownership class and species group.....	30
23. Net annual growth and removals of sawtimber on commercial forest land, by ownership class and species group.....	30
24. Average net volume per acre of sawtimber, growing stock, and other live timber on commercial forest land, by ownership class, major forest type, and species group	31
25. Land area, by class, major forest type, and survey completion date.....	32
26. Volume of sawtimber, growing stock, and all live timber on commercial forest land, by species group, diameter class, and survey completion date	33

HIGHLIGHTS

Since 1970 in Northeast Florida

■ *area of commercial forest land has declined by 238,000 acres, or by more than 3 percent.* Nearly 323,000 acres of commercial forest land were diverted to other land uses, while only 85,000 acres were added to commercial forest. Diversions to urban land uses accounted for 46 percent of the loss, agricultural uses 42 percent, and noncommercial forests and water the remaining 12 percent. Commercial forests still cover over 6.8 million acres, or 70 percent of the land area in this 21-county area.

■ *the decline in area of commercial forest land occurred in all three forest-type groups—pine, oak-pine, and hardwood.* Acreage occupied by pine forest types declined by 141,000 acres, or 4 percent; oak-pine type declined by 33,000 acres, or 6 percent; and hardwood types declined by 64,000 acres, or 2 percent. These net changes mask forest-type changes on almost 1.5 million acres. For example, the forest type on over 326,000 acres changed from oak-pine or hardwood to pine; pine types gained another 68,000 acres due to additions to the commercial forest land base. Forestry practices such as harvesting, artificial regeneration, intermediate cutting, prescribed burning, and various other treatments accounted for 57 percent of the total gain in pine types. The forest type on another 376,000 acres changed from pine to either oak-pine or hardwood. About 62 percent of this change was attributed to hardwoods replacing pines following harvesting. Land clearing accounted for the loss of another 160,000 acres of pine type. Acreage in longleaf pine decreased by 30 percent and accounted for two-thirds of the total net loss in pine types. Pond pine acreage also declined by 30 percent. The area of slash pine, the predominant forest type in this region, showed little net change.

■ *area of commercial forest land owned by forest industries has increased from an estimated 2.6 to 2.7 million acres.* An additional 633,000 acres of farmer and miscellaneous private lands are under long-term lease; thus, almost one-half the commercial forest land is under forest industry control. Farmer-owned woodlands have declined from 1.1 million acres to 668,000 acres. Miscellaneous private acreage, as a whole, has increased by over 100,000 acres, but there has been a significant shift from individual to corporate ownership. Area of commercial forest land owned by miscellaneous private individuals has declined from 2.0 to 1.8 million acres, while miscellaneous private corporate acreage has increased from 750,000 acres to over 1.0 million acres. The area of commercial forest land controlled by public agencies has increased by 5 percent and now totals 587,000 acres. The forest industry fee-simple acreage of 3.3 million acres reported in 1970 was found to be incorrect because the long-term lease acreage was double-counted as fee-simple land. Because of problems in identifying those lands with leasing arrangements, the total long-term lease acreage for 1970 was also underestimated. Both of these problems were considered in arriving at the adjusted 1970 fee-simple acreage of 2.6 million acres. Since the 1970 forest industry acreage was overestimated, the farmer and miscellaneous private lands were underestimated and, thus, had to be adjusted upward. The trends stated above reflect these adjustments. Almost all the adjustment was in the miscellaneous private ownership group.

■ *about 777,000 acres have been artificially regenerated and are adequately stocked with suitable species.* Over 77 percent of this activity took place on lands owned or leased by forest industry. Across all ownership classes, stands originating from planting or seeding now make up 30 percent of the commercial forest land. Nearly one-quarter million acres of artificially regenerated stands have been harvested and retained in commercial forest land. An estimated 43,000 acres of similar stands were cleared to some nonforest land use.

■ *nearly 1.5 million acres have been harvested.* About 37 percent of the harvested average was artificially regenerated after the harvest. About 10 percent of the harvested stands had adequate natural regeneration of suitable species, while 53 percent, or 784,000 acres, had insufficient tree stocking at the time the survey was made. Additional treatments included intermediate cutting on 332,000 acres, and other treatments—primarily prescribed burning—on almost 1.2 million acres. Disease, wildfires, insects, and other natural destructive agents caused significant damage on an additional 359,000 acres.

■ *average basal area of all live trees 5.0 inches d.b.h. and larger has increased from 44 to 55 square feet per acre of commercial forest land.* Acreage in stands fully stocked with growing-stock trees has increased from 1.3 to 2.2 million acres, or by 74 percent. Poorly stocked or nonstocked stands have declined in area from 3.0 to 2.3 million acres, or by 21 percent. Such stands still comprise over one-third of the commercial forest acreage. The number of 2- and 4-inch softwood trees decreased by 24 and 11 percent, respectively.

■ *volume of softwood growing stock has increased from 3.4 to 4.1 billion cubic feet, or by 20 percent.* The increase occurred across the entire range of diameter classes; however, almost three-fourths of the increase was in the 6-, 8-, and 10-inch classes. Slash pine, the most abundant softwood species in terms of volume, accounted for 72 percent of the softwood-volume increase. Longleaf pine was the only major softwood species to record a volume loss, declining by over 21 percent. The current inventory of softwood growing stock includes 10.7 billion board feet of sawtimber, up 13 percent since 1970.

■ *volume of hardwood growing stock has increased from over 1.8 to nearly 2.1 billion cubic feet, or by 13 percent.* The gain was spread across most major hard- and soft-textured hardwood species. The hardwood-volume increase occurred across the range of diameter classes. The current inventory of hardwood growing stock includes 5.8 billion board feet of sawtimber, up by 12 percent since 1970.

In 1979

■ *net annual growth of growing stock totaled 432 million cubic feet and included 1.3 billion board feet of sawtimber.* Net growth has increased from 39 cubic feet per acre of commercial forest land in 1969 to the current 63 cubic feet. Softwood species accounted for 80 percent of this net growth. This high growth rate is attributed to the larger proportion of the softwood inventory in the smaller diameter classes and to a high ingrowth rate. Ingrowth into the 6-inch and larger diameter classes accounted for 20 percent of the softwood gross growth. Net growth of softwoods exceeded removals by 25 percent, while net growth of hardwoods exceeded removals by 118 percent.

■ *removals from growing stock totaled 315 million cubic feet, and included 958 million board feet of sawtimber.* Softwood species made up 87 percent of the growing stock removals. Softwood removals have increased by 72 percent since 1969, while hardwood removals have increased by 39 percent. By ownership class, 48 percent of the volume removed was from forest industry lands controlled by public agencies. On lands owned by forest industry, removals of total pine growing stock nearly equaled net growth while removals of pine sawtimber exceeded net growth by 39 percent.

■ *mortality of growing stock totaled 37 million cubic feet and included 90 million cubic feet of sawtimber.* Softwood species accounted for 58 percent of the mortality. The leading identifiable causes of death were suppression, weather, disease, insects, and fire. Mortality reduced gross growth by 8 percent.

HOW THE INVENTORY IS MADE

The method of the inventory is a sampling procedure designed to provide reliable statistics primarily at the State and Survey Unit levels. Individual county statistics are presented so that any combination of counties may be added together until a total is large enough to meet the desired degree of reliability. Procedures were as follows:

1. Initial estimates of forest and nonforest areas were based on the classification of 29,010 sample clusters systematically spaced on the latest aerial photographs available. A subsample of 3,011 of the 16-point clusters was ground checked, and a linear regression was fitted to the data to develop the relationship between the photo and ground classification of the subsample. This procedure provides a means for adjusting the initial estimates of area for change in land use since date of photography and for photo misclassifications.

2. Estimates of timber volume and forest classifications were based on measurements recorded at 2,012 ground sample locations systematically distributed within the commercial forest land. The plot design at each location was based on a cluster of 10 points. In most cases, variable plots, using a basal-area factor of 37.5 square feet per acre, were systematically spaced within a single forest condition at 5 of the 10 cluster points. Trees less than 5 inches d.b.h. were tallied on a fixed-radius plot around each point center.

3. Equations prepared from detailed measurements of standing trees in this Unit, and similar measurements taken throughout the Southeast, were used to compute the volume of individual tally trees. A mirror caliper and sectional aluminum poles were used to obtain the additional measurements on these standing trees required to construct volume equations.

4. Felled trees were measured at 50 active cutting operations. These data will be pooled with similar measurements taken in the State to supplement the standing-tree-volume data and to generate utilization factors for product and species groups that will be analyzed at the State level.

5. Estimates of growth, removals, and mortality were determined from the remeasurement of 1,792 permanent sample plots established in the fourth survey.

6. Ownership information was collected from correspondence, public records, and local contacts. In those counties where the sample missed a particular ownership class, temporary sample plots were added on these lands.

7. All field data were sent to Asheville for editing and were punched into cards and stored for machine computing, sorting, and tabulation. Final estimates were based on statistical summaries of the data.

RELIABILITY OF THE DATA

Statistical analysis of these data indicates the following sampling errors in terms of one standard error (two times out of three):

	<i>Percent</i>
Per million acres of commercial forest land.....	1.13
Per billion cubic feet of growing stock	6.38
Per billion cubic feet of net annual growth.....	1.59
Per billion cubic feet of annual removals.....	3.04

*SAMPLING ERRORS FOR COUNTY AND UNIT TOTALS,¹ IN TERMS OF
ONE STANDARD ERROR*

COUNTY	COMMERCIAL FOREST AREA	CUBIC-FOOT VOLUME OF GROWING STOCK		
		INVENTORY	GROWTH	REMOVALS
- - - - - <i>SAMPLING ERROR</i> ² - - - - -				
ALACHUA	2.53	12.03	12.98	22.25
BAKER	0.98	10.68	9.83	20.95
BRADFORD	2.92	17.93	19.84	25.28
CLAY	1.87	13.23	11.56	38.79
COLUMBIA	1.62	9.36	8.86	27.96
DIXIE	1.19	11.10	9.77	19.56
DUVAL	2.41	11.33	11.48	27.43
FLAGLER	2.55	13.86	11.42	23.07
GILCHRIST	3.82	19.09	18.00	44.09
HAMILTON	2.79	13.35	12.96	25.78
LAFAYETTE	1.70	12.87	12.41	34.32
LEVY	1.59	9.74	9.70	18.38
MADISON	2.04	14.48	11.42	19.39
MARION	1.51	8.80	8.37	22.96
NASSAU	1.74	9.80	9.46	18.98
PUTNAM	1.59	13.23	10.60	31.87
ST. JOHNS	2.64	10.82	10.27	28.35
SUWANNEE	2.70	15.33	16.61	25.19
TAYLOR	1.12	8.36	8.59	17.54
UNION	3.68	16.18	14.08	34.78
VOLUSIA	1.64	9.24	8.98	25.92
UNIT TOTAL	0.43	2.56	2.42	5.42

¹ SAMPLING ERROR OF BREAKDOWNS OF COUNTY AND UNIT TOTALS
MAY BE COMPUTED WITH THE FOLLOWING FORMULA:

$$E = \frac{(SE) \sqrt{(\text{SPECIFIED VOLUME OR AREA})}}{\sqrt{(\text{VOLUME OR AREA TOTAL IN QUESTION})}}$$

WHERE: E = SAMPLING ERROR OF THE VOLUME OR AREA TOTAL IN
QUESTION.
SE = SPECIFIED SAMPLING ERROR IN TABLE.

² BY RANDOM-SAMPLING FORMULA (IN PERCENT).

DEFINITIONS OF TERMS

Acceptable trees.--Growing-stock trees of commercial species that meet specified standards of size and quality, but not qualifying as desirable trees.

Basal area.--The area in square feet of the cross section at breast height of a single tree or of all the trees in a stand, usually expressed as square feet of basal area per acre.

Commercial forest land.--Forest land producing or capable of producing crops of industrial wood and not withdrawn from timber utilization.

Commercial species.--Tree species presently or prospectively suitable for industrial wood products.

Cropland.--Land under cultivation within the past 24 months, including orchards and land in soil-improving crops, but excluding land cultivated in developing improved pasture. Also includes idle farmland.

Desirable trees.--Growing-stock trees of commercial species having no serious defects in quality limiting present or prospective use for timber products, of relatively high vigor, and containing no pathogens that may result in death or serious deterioration before rotation age.

Diameter class.--A classification of trees based on diameter outside bark, measured at breast height (4-1/2 feet above the ground). D.b.h. is the common abbreviation for "diameter at breast height." Two-inch-diameter classes are commonly used in Forest Survey, with the even inch the approximate midpoint for a class. For example, the 6-inch class includes trees 5.0 through 6.9 inches d.b.h., inclusive.

Farm.--Lands on which agriculture operations are being conducted and sale of agriculture products totaled \$1,000 or more during the year.

Farm operator.--A person who operates a farm, either doing the work himself or directly supervising the work.

Farmer-owned lands.--Lands owned by farm operators.

Forest industry lands.--Lands owned by companies or individuals operating wood-using plants.

Forest land.--Land at least 16.7 percent stocked by forest trees of any size, or formerly having had such tree cover, and not currently developed for nonforest use.

Forest type.--A classification of forest land based upon the species forming a plurality of live-tree stocking.

Longleaf-slash pine.--Forests in which longleaf or slash pine, singly or in combination, comprises a plurality of the stocking. (Common associates include oak, hickory, and gum.)

Loblolly-shortleaf pine.--Forests in which loblolly pine, shortleaf pine, or other southern yellow pines, except longleaf or slash pine, singly or in combination, comprise a plurality of the stocking. (Common associates include oak, hickory, and gum.)

Oak-pine.--Forests in which hardwoods (usually upland oaks) comprise a plurality of the stocking but in which pines comprise 25 to 50 percent of the stocking. (Common associates include gum, hickory, and yellow-poplar.)

Oak-hickory.--Forests in which upland oaks or hickory, singly or in combination, comprise a plurality of the stocking, except where pines comprise 25 to 50 percent, in which case the stand would be classified oak-pine. (Common associates include yellow-poplar, elm, maple, and black walnut.)

Oak-gum-cypress.--Bottomland forests in which tupelo, blackgum, sweetgum, oaks, or southern cypress, singly or in combination, comprises a plurality of the stocking, except where pines comprise 25 to 50 percent, in which case the stand would be classified oak-pine. (Common associates include cottonwood, willow, ash, elm, hackberry, and maple.)

Elm-ash-cottonwood.--Forests in which elm, ash, or cottonwood, singly or in combination, comprises a plurality of the stocking. (Common associates include willow, sycamore, beech, and maple.)

Gross growth.--Annual increase in net volume of trees in the absence of cutting and mortality.

Growing-stock trees.--Live trees of commercial species qualifying as desirable or acceptable trees.

Growing-stock volume.--Net volume in cubic feet of growing-stock trees 5.0 inches d.b.h. and over from a 1-foot stump to a minimum 4.0-inch top diameter outside bark of the central stem, or to the point where the central stem breaks into limbs. (Net volume in primary forks is included.)

Hardwoods.--Dicotyledonous trees, usually broad-leaved and deciduous.

Soft hardwoods.--Soft-textured hardwoods such as boxelder, red and silver maple, buckeye, hackberry, loblolly-bay, silverbell (in mountains), butternut, sweetgum, yellow-poplar, cucumbertree, magnolia, sweetbay, water tupelo, blackgum, sycamore, cottonwood, black cherry, willow, basswood, and elm.

Hard hardwoods.--Hard-textured hardwoods such as Florida and sugar maple, birch, hickory, dogwood, persimmon (forest grown), beech, ash, honeylocust, holly, black walnut, mulberry, all commercial oaks, and black locust.

Idle farmland.--Includes former croplands, orchards, improved pastures and farm sites not tended within the past 2 years, and presently less than 16.7 percent stocked with trees.

Improved pasture.--Land currently improved for grazing by cultivation, seeding, irrigation, or clearing of trees or brush.

Industrial wood.--All roundwood products except fuelwood.

Land area.--The area of dry land and land temporarily or partly covered by water such as marshes, swamps, and river flood plains (omitting tidal flats below mean high tide); streams, sloughs, estuaries, and canals less than 1/8 of a statute mile in width; and lakes, reservoirs, and ponds less than 40 acres in area.

Logging residues.--The unused portions of trees cut or killed by logging.

Miscellaneous Federal lands.--Federal lands other than National Forests, lands administered by the Bureau of Land Management, and Indian lands.

Miscellaneous private lands - corporate.--Lands owned by private corporations other than forest industry.

Miscellaneous private lands - individual.--Privately owned lands other than forest-industry, farmer-owned, or corporate lands.

Mortality.--Number or sound-wood volume of live trees dying from natural causes during a specified period.

National Forest land.--Federal lands which have been legally designated as National Forests or purchase units, and other lands under the administration of the Forest Service, including experimental areas and Bankhead-Jones Title III lands.

Net annual growth.--The increase in volume for a specific year.

Net volume.--Gross volume less deductions for rot, sweep, or other defect affecting use for timber products.

Noncommercial forest land.--(a) Unproductive forest land incapable of yielding crops of industrial wood because of adverse site conditions, and (b) productive-reserved forest land.

Noncommercial species.--Tree species of typically small size, poor form, or inferior quality which normally do not develop into trees suitable for industrial wood products.

Nonforest land.--Land that has never supported forests and lands formerly forested where timber management is precluded by development for other uses.

Nonstocked land.--Commercial forest land less than 16.7 percent stocked with growing-stock trees.

Other Federal lands.--Federal lands other than National Forests, including lands administered by the Bureau of Land Management, Bureau of Indian Affairs, and other Federal agencies.

Other public lands.--Publicly owned lands other than National Forests.

Overstocked areas.--Areas where growth of trees is significantly reduced by excessive numbers of trees.

Poletimber trees.--Growing-stock trees of commercial species at least 5.0 inches in d.b.h. but smaller than sawtimber size.

Productive-reserved forest land.--Forest land sufficiently productive to qualify as commercial forest land, but withdrawn from timber utilization through statute or administrative designation.

Rangeland.--Land on which the natural plant cover is composed principally of native grasses, forbs, or shrubs valuable for forage.

Rotten trees.--Live trees of commercial species that do not contain at least one 12-foot saw log, or two noncontiguous saw logs, each 8 feet or longer, now or prospectively, primarily because of rot or missing sections, and with less than one-third of the gross tree volume in sound material.

Rough trees.--(a) Live trees of commercial species that do not contain at least one 12-foot saw log, or two noncontiguous saw logs, each 8 feet or longer, now or prospectively, primarily because of roughness, poor form, splits, and cracks, and with less than one-third of the gross tree volume in sound material; and (b) all live trees of noncommercial species.

Salvable dead trees.--Standing or down dead trees that are considered merchantable by Forest Survey standards.

Saplings.--Live trees 1.0 to 5.0 inches in diameter at breast height.

Saw log.--A log meeting minimum standards of diameter, length, and defect, including logs at least 8 feet long, sound and straight, and with a minimum diameter inside bark for softwoods of 6 inches (8 inches for hardwoods).

Saw-log portion.--That part of the bole of sawtimber trees between the stump and the saw-log top.

Saw-log top.--The point on the bole of sawtimber trees above which a saw log cannot be produced. The minimum saw-log top is 7.0 inches d.o.b. for softwoods and 9.0 inches d.o.b. for hardwoods.

Sawtimber trees.--Live trees of commercial species containing at least a 12-foot saw log, or two noncontiguous saw logs, each 8 feet or longer, and with at least one-third of the gross board-foot volume between the 1-foot stump and minimum saw-log top being sound. Softwoods must be at least 9.0 inches and hardwoods at least 11.0 inches in diameter at breast height.

Sawtimber volume.--Net volume of the saw-log portion of live sawtimber in board-foot International 1/4-inch rule.

Seedlings.--Live trees less than 1.0 inch in diameter at breast height that are expected to survive and develop.

Site class.--A classification of forest land in terms of inherent capacity to grow crops of industrial wood based on fully stocked natural stands.

Class 1.--Sites capable of producing 165 or more cubic feet per acre annually.

Class 2.--Sites capable of producing 120 to 165 cubic feet per acre annually.

Class 3.--Sites capable of producing 85 to 120 cubic feet per acre annually.

Class 4.--Sites capable of producing 50 to 85 cubic feet per acre annually.

Class 5.--Sites incapable of producing 50 cubic feet per acre annually, but excluding unproductive sites.

Softwoods.--Coniferous trees, usually evergreen, having needles or scale-like leaves.

Pines.--Yellow pine species which include loblolly, longleaf, slash, shortleaf, pitch, Virginia, Table-Mountain, sand, and spruce pine.

Other softwoods.--White pine, hemlock, cypress, eastern redcedar, white-cedar, spruce, and fir.

Stand-size class.--A classification of forest land based on the size class of growing-stock trees on the area.

Sawtimber stands.--Stands at least 16.7 percent stocked with growing-stock trees, with half or more of total stocking in sawtimber or poletimber trees, and with sawtimber stocking at least equal to poletimber stocking.

Poletimber stands.--Stands at least 16.7 percent stocked with growing-stock trees of which half or more of this stocking is in poletimber and sawtimber trees, and with poletimber stocking exceeding that of sawtimber.

Sapling-seedling stands.--Stands at least 16.7 percent stocked with growing-stock trees of which more than half of the stocking is saplings and seedlings.

State, county, and municipal lands.--Lands owned by States, counties, and local public agencies or municipalities, or lands leased to these governmental units for 50 years or more.

Stocking.--The degree of occupancy of land by trees, measured by basal area or the number of trees in a stand and spacing in the stand, compared to a minimum standard, depending on tree size, to fully utilize the growth potential of the land. (See page 12.)

Timber removals.--The net volume of growing-stock trees removed from the inventory by harvesting; cultural operations, such as stand improvement; land clearing, or changes in land use.

Unproductive forest land.--Forest land incapable of producing 20 cubic feet per acre of industrial wood under natural conditions, because of adverse site conditions.

Upper-stem portion.--That part of the main stem or fork of sawtimber trees above the saw-log top to a minimum top diameter of 4.0 inches outside bark or to the point where the main stem or fork breaks into limbs.

Urban and other areas.--Areas within the legal boundaries of cities and towns; suburban areas developed for residential, industrial, or recreational purposes; school yards; cemeteries; roads; railroads; airports; beaches; powerlines and other rights-of-way; or other nonforest land not included in any other specified land use class.

STOCKING STANDARD

D.B.H. CLASS	MINIMUM NUMBER OF TREES PER ACRE FOR FULL STOCKING	MINIMUM BASAL AREA PER ACRE FOR FULL STOCKING	PERCENT STOCKING ASSIGNED EACH TALLY TREE ¹
SEEDLINGS	600	--	5.0
2	560	--	5.4
4	460	--	6.5
6	340	67	5.8
8	240	84	4.8
10	155	85	4.3
12	115	90	4.0
14	90	96	3.8
16	72	101	3.7
18	60	106	3.5
20	51	111	3.5

¹ STOCKING PERCENTAGES BASED ON TALLY AT ALL 10 POINTS OF A 10-POINT CLUSTER OF PLOTS. TREES LESS THAN 5 INCHES D.B.H. WERE TALLIED ON CIRCULAR, 1/300-ACRE PLOTS AT EACH POINT. TREES 5.0 INCHES D.B.H. AND LARGER WERE TALLIED ON VARIABLE PLOTS USING A BASAL AREA FACTOR OF 37.5 AT EACH SAMPLE POINT.

OVERSTOCKED--OVER 130 PERCENT

FULLY STOCKED--100-130 PERCENT

MEDIUM STOCKED--60-99 PERCENT

POORLY STOCKED--16.7-59 PERCENT

NONSTOCKED--LESS THAN 16.7 PERCENT

CUBIC FEET OF WOOD PER AVERAGE CORD (EXCLUDING BARK)

D.B.H. CLASS	ALL SPECIES	PINE	OTHER SOFTWOOD	HARDWOOD
6	61.4	61.0	68.2	60.0
8	69.1	68.1	76.0	68.4
10	74.3	73.1	81.4	73.4
12	77.8	76.7	85.2	76.4
14	80.3	79.4	88.2	78.4
16	81.8	81.6	90.4	79.8
18	83.0	83.3	92.3	80.8
20	84.0	84.8	93.8	81.5
22	84.2	86.0	95.1	82.1
24+	84.5	87.4	98.2	83.2
AVERAGE	73.4	70.7	81.9	74.1

COUNTY TABLES

THE COUNTY TABLES ARE INTENDED FOR USE IN COMPILING FOREST RESOURCE ESTIMATES FOR GROUPS OF COUNTIES. BECAUSE THE SAMPLING PROCEDURE USED BY THE FOREST SURVEY WAS INTENDED PRIMARILY TO FURNISH INVENTORY DATA FOR THE SURVEY UNIT AS A WHOLE, INDIVIDUAL COUNTY ESTIMATES HAVE LIMITED AND VARIABLE ACCURACY. AS COUNTY TOTALS ARE BROKEN DOWN BY VARIOUS SUBDIVISIONS, THE POSSIBILITY OF ERROR INCREASES AND IS GREATEST FOR THE SMALLEST ITEMS. THE ORDER OF THIS INCREASE CAN BE COMPUTED WITH THE FORMULA ON PAGE 5.

TABLE 1. --AREA, BY LAND CLASS AND COUNTY, 1980

COUNTY	ALL LAND ¹	FOREST LAND				NONFOREST LAND ²
		TOTAL	COMMERCIAL FOREST	UNPRODUCTIVE FOREST	PRODUCTIVE- RESERVED	
ACRES						
ALACHUA	592,947	320,684	309,353	--	11,331	272,263
BAKER	373,733	331,860	331,542	--	318	41,873
BRADFORD	186,561	136,299	136,299	--	--	50,262
CLAY	388,548	316,483	315,100	--	1,383	72,065
COLUMBIA	511,587	371,622	366,138	1,096	4,388	139,965
DIXIE	453,981	395,155	395,155	--	--	58,826
DUVAL	496,061	279,380	277,344	1,359	677	216,681
FLAGLER	315,108	253,582	250,483	1,345	1,754	61,526
GILCHRIST	224,901	141,989	141,989	--	--	82,912
HAMILTON	332,069	242,683	241,382	--	1,301	89,386
LAFAYETTE	351,465	285,418	285,418	--	--	66,047
LEVY	721,776	480,089	466,584	895	12,610	241,687
MADISON	457,788	297,382	297,353	--	29	160,406
MARION	1,035,667	633,423	631,402	302	1,719	402,244
NASSAU	415,037	338,634	337,175	512	947	76,403
PUTNAM	469,696	363,307	363,204	--	103	106,389
ST. JOHNS	396,909	292,696	288,592	2,672	1,432	104,213
SUWANNEE	440,943	202,759	200,884	--	1,875	238,184
TAYLOR	668,092	595,277	588,605	6,664	8	72,815
UNION	158,611	118,107	118,107	--	--	40,504
VOLUSIA	726,145	517,786	502,361	11,017	4,408	208,359
TOTAL	9,717,625	6,914,615	6,844,470	25,862	44,283	2,803,010

¹ FROM U. S. BUREAU OF THE CENSUS, LAND AND WATER AREA OF THE UNITED STATES, 1970.

² INCLUDES 53,012 ACRES OF WATER ACCORDING TO SURVEY STANDARDS OF AREA CLASSIFICATION BUT DEFINED BY THE BUREAU OF THE CENSUS AS LAND.

TABLE 2. AREA OF COMMERCIAL FOREST, 4th. 5. SALES OF CLASS AND COUNTY, 1980

COUNTY	ALL OWNERSHIPS	NATIONAL FOREST	MISCELLANEOUS FEDERAL	STATE	OWNERSHIP CLASS			FARMER	MISCELLANEOUS PRIVATE	
					COUNTY AND MUNICIPAL	FOREST INDUSTRY	ACRES		CORPORATE	INDIVIDUAL
ALACHUA	309,353	--	--	3,719	2,330	103,271	69,720	56,830	73,483	
BAKER	331,542	75,507	3,678	1,168	2,337	177,527	5,081	194,302	15,244	
BRADFORD	136,299	--	--	8,029	994	62,065	23,208	9,676	32,327	
CLAY	315,100	--	640	45,047	927	80,168	23,402	73,027	91,889	
COLUMBIA	366,138	77,256	102	45,455	356	69,627	66,901	47,121	104,860	
DIXIE	395,155	--	--	5	385	372,484	5,596	1,399	15,336	
DUVAL	277,344	--	15,910	1,235	4,516	44,381	17,205	54,081	140,016	
FLAGLER	250,483	--	--	1,124	519	52,050	16,817	70,029	110,939	
GILCHRIST	141,989	--	--	27	367	34,396	35,937	16,336	55,032	
HAMILTON	241,382	--	--	31	28	87,799	30,552	8,729	114,247	
LAFAYETTE	285,412	--	--	36	426	189,618	37,167	10,137	48,034	
LEVY	466,584	--	--	51	691	235,730	29,230	66,155	134,727	
MADISON	297,353	--	--	14	66	159,207	85,145	3,041	49,880	
MARION	331,422	252,595	3,000	24,957	1,053	70,898	64,102	113,955	101,070	
NASSAU	337,125	--	28	2,887	1,034	174,538	3,659	113,955	141,674	
POTNAM	363,221	20,683	4,463	5,490	1,639	71,447	14,838	115,381	128,207	
ST. JOHNS	288,592	--	--	--	258	71,161	6,895	59,043	147,796	
SUWANNEE	200,844	--	--	106	496	25,111	77,777	39,043	59,457	
TAYLOR	588,605	--	--	5,258	275	519,818	3,420	1,710	63,276	
UNION	112,107	--	--	1,975	350	71,833	19,936	3,322	17,420	
VOLUNTA	502,361	--	9,370	1,975	1,668	78,832	30,978	182,427	191,101	
TOTAL	6,844,470	476,047	37,191	106,532	17,085	2,704,971	667,606	1,048,910	1,836,065	

NOT INCLUDING 533,328 ACRES OF FARMER-OWNED AND MISCELLANEOUS PRIVATE LANDS LEASED TO FOREST INDUSTRY.

TABLE 3. -- AREA OF COMMERCIAL FOREST LAND, BY FOREST-TYPE GROUP AND COUNTY, 1980

COUNTY	ALL TYPE GROUPS	FOREST-TYPE GROUP							OAK-GUM-CYPRESS	ELM-ASH-COTTONWOOD	MAPLE-BEECH-BIRCH
		WHITE PINE-HEMLOCK	SPRUCE-FIR	LONGLEAF-SLASH	LOBLOLLY-SHORTLEAF	OAK-PINE	OAK-HICKORY				
						ACRES					
ALACHUA	309,353	--	--	150,508	1,255	31,446	74,712	51,432	--	--	
BAKER	331,542	--	--	217,285	--	12,526	3,644	98,087	--	--	
BRADFORD	136,299	--	--	163,269	8,467	25,869	15,524	23,170	--	--	
CLAY	315,100	--	--	152,189	28,405	15,032	56,810	62,664	--	--	
COLUMBIA	366,138	--	--	208,431	3,818	14,195	50,361	85,333	--	--	
DIXIE	395,155	--	--	178,781	14,189	26,231	52,544	123,410	--	--	
DUVAL	277,344	--	--	145,518	20,369	33,004	37,851	40,579	--	--	
FLAGLER	250,483	--	--	138,818	6,288	28,165	11,081	66,131	--	--	
GLICHRIST	141,989	--	--	72,595	--	2,297	46,882	19,285	--	--	
HAMILTON	241,382	--	--	133,204	13,771	32,051	18,884	53,472	--	--	
LAFAYETTE	285,418	--	--	115,486	27,074	37,218	31,190	74,450	--	--	
LEVY	466,584	--	--	183,289	6,959	55,698	103,778	113,631	3,229	--	
MADISON	297,353	--	--	106,699	27,341	25,827	54,762	82,724	--	--	
MARION	631,402	--	--	125,705	232,649	64,730	141,971	62,576	3,771	--	
NASSAU	337,175	--	--	153,733	24,810	99,743	10,808	110,081	--	--	
PUTNAM	363,204	--	--	174,220	40,852	29,957	69,422	48,753	--	--	
ST. JOHNS	288,592	--	--	134,390	25,855	16,639	17,499	94,209	--	--	
SUWANNEE	200,884	--	--	80,042	9,511	15,789	76,520	19,022	--	--	
TAYLOR	588,605	--	--	300,615	40,843	10,164	38,527	198,456	--	--	
UNION	118,107	--	--	71,862	--	2,763	9,964	32,704	814	--	
VOLUSIA	502,361	--	--	209,422	58,515	46,101	30,978	157,345	--	--	
TOTAL	6,844,470	--	--	3,114,084	590,971	556,415	953,672	1,621,514	7,814	--	

TABLE 4. --AREA OF COMMERCIAL FOREST LAND, BY STAND-SIZE CLASS AND COUNTY, 1980

COUNTY	ALL STANDS	STAND-SIZE CLASS			NONSTOCKED AREAS
		SAWTIMBER	POLETIMBER	SAPLING- SEEDLING	
- - - - - ACRES - - - - -					
ALACHUA	309,353	60,859	108,180	111,901	28,413
BAKER	331,542	104,688	82,410	117,516	26,928
BRADFORD	136,299	29,803	35,223	60,352	10,921
CLAY	315,100	82,668	76,324	109,323	46,785
COLUMBIA	366,138	109,548	120,915	121,991	13,684
DIXIE	395,155	88,585	131,905	142,552	32,113
DUVAL	277,344	75,210	100,674	63,610	37,850
FLAGLER	250,483	73,025	88,660	61,621	27,177
GILCHRIST	141,989	35,887	44,811	26,164	35,127
HAMILTON	241,382	70,939	66,964	92,094	11,385
LAFAYETTE	285,418	60,884	91,372	99,287	33,875
LEVY	466,584	163,239	113,782	101,927	87,636
MADISON	297,353	100,708	53,221	114,597	28,827
MARION	631,402	149,521	193,695	204,456	83,730
NASSAU	337,175	72,014	147,464	101,407	16,290
PUTNAM	363,204	83,421	97,451	102,063	80,269
ST. JOHNS	288,592	67,318	130,682	67,491	23,101
SUWANNEE	200,884	39,382	60,176	69,622	31,704
TAYLOR	588,605	152,084	191,746	182,084	62,691
UNION	118,107	27,098	41,518	46,169	3,322
VOLUSIA	502,361	167,637	137,354	141,402	55,968
TOTAL	6,844,470	1,814,518	2,114,527	2,137,629	777,796

TABLE 5. --AREA OF COMMERCIAL FOREST LAND, BY SITE CLASS AND COUNTY, 1980

COUNTY	ALL CLASSES	SITE CLASS				
		1	2	3	4	5
-- -- -- -- -- ACRES -- -- -- -- --						
ALACHUA	309,353	---	17,389	96,344	170,449	25,171
BAKER	331,542	---	--	65,803	243,231	22,508
BRADFORD	136,299	---	4,025	47,938	68,588	15,748
CLAY	315,100	---	5,846	40,885	152,155	116,214
COLUMBIA	366,138	---	8,612	107,860	213,620	36,046
DIXIE	395,155	---	--	72,344	289,299	33,512
DUVAL	277,344	---	--	41,634	178,621	57,089
FLAGLER	250,483	---	7,096	28,045	188,624	26,718
GILCHRIST	141,989	---	--	35,153	62,057	44,779
HAMILTON	241,382	---	2,684	31,233	187,630	19,835
LAFAYETTE	285,418	---	--	61,332	172,594	51,492
LEVY	466,584	---	--	90,999	288,024	87,561
MADISON	297,353	---	3,790	30,856	220,220	42,487
MARION	631,402	3,771	41,055	112,759	306,511	167,306
NASSAU	337,175	---	2,187	53,035	238,357	43,596
PUTNAM	363,204	---	--	60,199	182,293	120,712
ST. JOHNS	288,592	---	--	31,470	216,182	40,940
SUWANNEE	200,884	---	--	28,534	118,514	53,836
TAYLOR	588,605	---	7,426	69,719	367,447	144,013
UNION	118,107	---	3,321	28,746	74,431	11,609
VOLUSIA	502,361	---	6,884	32,936	338,360	124,181
TOTAL	6,844,470	3,771	110,315	1,167,824	4,277,207	1,285,353

TABLE 6. -AREA OF COMMERCIAL FOREST LAND, BY STOCKING CLASSES OF GROWING-STOCK TREES, BY COUNTY, 1980

COUNTY	ALL CLASSES	STOCKING PERCENTAGE ¹				
		OVER 130	100-130	60-99	16.7-59	LESS THAN 16.7
- - - - - ACRES - - - - -						
ALACHUA	309,353	10,726	111,447	100,335	58,432	28,413
BAKER	331,542	23,938	122,039	110,291	48,346	26,928
BRADFORD	136,299	3,448	51,429	43,242	27,259	10,921
CLAY	315,100	15,867	80,765	112,267	59,416	46,785
COLUMBIA	366,138	14,554	95,750	172,208	69,942	13,684
DIXIE	395,155	14,190	107,823	138,254	102,775	32,113
DUVAL	277,344	10,051	86,709	79,045	63,689	37,850
FLAGLER	250,483	18,768	80,473	68,639	55,426	27,177
GILCHRIST	141,989	17,171	24,369	43,432	21,890	35,127
HAMILTON	241,382	5,793	75,892	97,998	50,314	11,385
LAFAYETTE	285,418	10,143	74,450	81,194	85,756	33,875
LEVY	466,584	29,695	95,222	142,363	111,668	87,636
MADISON	297,353	25,522	44,780	117,660	80,564	28,827
MARION	631,402	3,043	122,325	222,586	199,718	83,730
NASSAU	337,175	14,791	108,912	117,584	79,598	16,290
PUTNAM	363,204	29,505	94,831	92,161	66,438	80,269
ST. JOHNS	288,592	21,032	101,121	105,152	38,186	23,101
SUWANNEE	200,884	15,853	56,938	58,345	38,044	31,704
TAYLOR	588,605	34,834	154,384	199,577	137,119	62,691
UNION	118,107	5,524	46,169	44,841	18,251	3,322
VOLUSIA	502,361	26,752	133,760	134,673	151,208	55,968
TOTAL	6,844,470	351,200	1,869,588	2,281,847	1,564,039	777,796

¹ SEE STOCKING STANDARDS ON PAGE 12.

TABLE 7. -- VOLUME OF SAWTIMBER AND GROWING STOCK ON COMMERCIAL FOREST LAND, BY SPECIES GROUP AND COUNTY, 1980

COUNTY	SAWTIMBER				GROWING STOCK					
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD

* FACTORS FOR CONVERTING TO CORDS ARE SHOWN ON PAGE 12.

TABLE 8. --NET ANNUAL GROWTH OF SAWTIMBER AND GROWING STOCK ON COMMERCIAL FOREST LAND, BY SPECIES GROUP AND COUNTY, 1979

COUNTY	SAWTIMBER				GROWING STOCK					
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
	THOUSAND BOARD FEET				THOUSAND CUBIC FEET					
ALACHUA	65,654	50,286	3,091	5,409	6,868	21,971	18,383	711	1,100	1,777
BAKER	77,450	62,722	7,279	7,342	1,107	23,942	19,402	1,544	2,785	1,211
BRADFORD	24,374	21,143	7,458	2,038	735	10,158	9,344	1,179	491	144
CLAY	47,455	34,615	2,128	5,790	4,922	16,469	12,513	718	1,888	1,350
COLUMBIA	85,341	68,165	4,774	7,200	5,202	22,552	16,298	1,311	3,225	1,694
DIXIE	52,712	30,910	8,704	9,070	14,028	21,454	13,095	2,031	3,584	4,103
DUVAL	58,200	39,560	1,011	9,323	8,366	17,834	13,105	2,374	1,369	1,771
FLAGLER	42,489	26,500	9,475	3,331	2,983	18,482	14,516	380	2,250	582
GILCHRIST	28,599	23,826	2,193	381	2,199	10,099	8,862	940	1,175	607
HAMILTON	38,779	26,876	2,462	5,131	4,310	16,075	11,457	1,061	1,890	1,003
LAFAYETTE	40,053	27,527	4,161	2,890	5,475	14,743	10,789	2,741	3,509	3,799
LEVY	84,635	47,775	10,405	12,603	13,852	28,452	18,403	1,208	3,435	1,472
MADISON	53,071	28,294	6,600	11,411	7,666	13,955	7,840	1,374	2,582	3,300
MARION	124,655	101,236	1,756	16,398	15,258	36,229	29,973	909	3,822	2,368
NASSAU	71,670	52,043	2,961	10,308	9,558	33,748	16,649	360	3,884	1,341
PUTNAM	66,779	51,335	1,636	8,225	5,583	26,018	21,433	1,149	3,078	1,913
ST. JOHNS	58,881	39,100	3,772	8,286	7,723	22,938	16,635	3,199	568	1,442
SUWANNEE	32,260	25,640	3,114	2,272	4,234	12,938	10,909	3,165	4,278	5,226
TAYLOR	87,518	41,366	12,357	12,706	21,089	35,538	22,869	450	1,537	1,20
UNION	25,702	19,331	2,150	3,524	697	10,866	8,759	3,591	3,700	984
VOLUSIA	96,198	67,354	14,401	9,135	5,308	27,202	18,927			
TOTAL	1,262,535	875,604	101,888	142,973	142,070	431,500	319,161	25,230	50,399	36,710

TABLE 10. --AREA OF COMMERCIAL FOREST LAND, BY FOREST TYPE AND OWNERSHIP CLASS, 1980

FOREST TYPE	ALL OWNERSHIPS	OWNERSHIP CLASS				
		NATIONAL FOREST	OTHER PUBLIC	FOREST INDUSTRY	FARMER	MISC. PRIVATE
ACRES						
SOFTWOOD TYPES:						
WHITE PINE-HEMLOCK	--	--	--	--	--	--
SPRUCE-FIR	--	--	--	--	--	--
LONGLEAF PINE	314,997	60,305	6,006	76,877	13,751	158,058
SLASH PINE	2,799,087	82,470	56,769	1,301,488	194,443	1,163,917
LOBLOLLY PINE	188,999	--	2,517	64,349	36,910	85,223
SHORTLEAF PINE	3,343	--	--	--	--	3,343
VIRGINIA PINE	--	--	--	--	--	--
SAND PINE	284,587	184,958	5,985	32,029	--	61,615
EASTERN REDCEDAR	--	--	--	--	--	--
POND PINE	114,042	7,642	5,305	43,074	3,343	54,678
SPRUCE PINE	--	--	--	--	--	--
PITCH PINE	--	--	--	--	--	--
TABLE-MOUNTAIN PINE	--	--	--	--	--	--
TOTAL	3,705,055	335,375	76,582	1,517,817	248,447	1,526,834
HARDWOOD TYPES:						
OAK-PINE	556,415	30,017	7,619	203,394	68,951	246,434
OAK-HICKORY	545,662	3,044	13,613	129,272	156,069	243,664
CHESTNUT OAK	--	--	--	--	--	--
SOUTHERN SCRUB OAK	408,010	18,261	10,294	24,095	52,227	303,133
OAK-GUM-CYPRESS	1,621,514	39,350	52,763	827,164	141,912	560,325
ELM-ASH-COTTONWOOD	7,814	--	--	3,229	--	4,585
MAPLE-BEECH-BIRCH	--	--	--	--	--	--
TOTAL	3,139,415	90,672	84,289	1,187,154	419,159	1,358,141
ALL TYPES	6,844,470	426,047	160,871	2,704,971	667,606	2,884,975

TABLE 11. --AREA OF COMMERCIAL FOREST LAND, BY OWNERSHIP AND STOCKING CLASSES OF GROWING-STOCK TREES, 1980

OWNERSHIP CLASSES	ALL CLASSES	STOCKING PERCENTAGE ¹				
		OVER 130	100-130	60-99	16.7-59	LESS THAN 16.7
ACRES						
NATIONAL FOREST	426,047	19,648	87,096	177,421	108,475	33,407
OTHER PUBLIC	160,871	2,517	58,708	51,130	34,697	13,819
FOREST INDUSTRY	2,704,971	157,260	908,514	907,916	532,892	198,389
FARMER	667,606	52,551	116,406	216,401	206,797	75,451
MISC. PRIVATE	2,884,975	119,224	698,864	928,979	681,178	456,730
ALL OWNERSHIPS	6,844,470	351,200	1,869,588	2,281,847	1,564,039	777,796

¹ SEE STOCKING STANDARDS ON PAGE 12.

TABLE 12. -- VOLUME OF TIMBER ON COMMERCIAL FOREST LAND, BY CLASS AND SPECIES GROUP, 1980

CLASS OF TIMBER	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
THOUSAND CUBIC FEET					
SAWTIMBER TREES:					
SAW-LOG PORTION	3,311,199	1,582,562	582,167	607,576	538,894
UPPER-STEM PORTION	348,609	147,014	54,081	78,176	69,338
TOTAL	3,659,808	1,729,576	636,248	685,752	608,232
POLETIMBER TREES	2,544,365	1,475,486	271,289	527,042	270,548
ALL GROWING-STOCK TREES	6,204,173	3,205,062	907,537	1,212,794	878,780
ROUGH TREES:					
SAWTIMBER-SIZE TREES	272,268	3,246	6,942	55,921	206,159
POLETIMBER-SIZE TREES	298,262	9,947	7,380	87,257	193,678
TOTAL	570,530	13,193	14,322	143,178	399,837
ROTTEN TREES:					
SAWTIMBER-SIZE TREES	57,917	-	9,063	22,552	26,302
POLETIMBER-SIZE TREES	12,552	--	870	7,073	4,609
TOTAL	70,469	--	9,933	29,625	30,911
SALVABLE DEAD TREES:					
SAWTIMBER-SIZE TREES	1,743	1,540	203	--	--
POLETIMBER-SIZE TREES	2,494	2,267	227	--	--
TOTAL	4,237	3,807	430	--	--
TOTAL, ALL TIMBER	6,849,409	3,222,062	932,222	1,385,597	1,309,528

TABLE 13. - NUMBER OF SPECIES OF COMMERCIAL PINE, LARCH, SPRUCE, AND FIR IN THE U.S., 1980

SPECIES	ALL CLASSES	Diameter Class					Number of Acres					Volume of Wood					29.0 AND LARGER
		5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0-24.9	25.0-26.9	27.0-28.9	29.0-30.9			
SOFTWOOD:																	
LONGLEAF PINE	34,637	9,309	7,010	8,467	14,407	2,166	895	230	58	94							
SLASH PINE	410,635	249,186	104,668	33,761	14,195	5,990	1,337	825	233	140							
SHORTLEAF PINE																	
LOBLOLLY PINE	20,820	8,043	3,586	2,910	2,130	1,674	1,147	683	331	303						13	
POND PINE	12,502	4,124	3,361	2,172	1,393	512	157	109	37	37							
VIRGINIA PINE																	
PITCH PINE																	
TABLE-MOUNTAIN PINE																	
SPRUCE PINE	218						17	15	23	16							
SAND PINE	32,772	19,461	8,377	3,655	888	306	94	45		10							
EASTERN WHITE PINE																	
EASTERN HEMLOCK																	
SPRUCE AND FIR																	
BALD CYPRESS	11,882	3,565	2,975	1,857	1,184	808	410	348	325	188						7	
POND CYPRESS	90,893	3,315	13,113	13,187	5,675	4,573	1,895	749	306	215						21	
CEDARS	1,831	1,316	89		73	129											
TOTAL SOFTWOODS	615,640	332,911	152,595	66,802	34,946	16,162	6,960	3,004	1,313	1,003						41	
HARDWOOD:																	
SELECT WHITE OAKS	285	115	317	123	75	104	19	26								6	
SELECT RED OAKS	238			62	38	31											
CHESTNUT OAK																	
OTHER WHITE OAKS	48,195	17,315	11,558	897	710	643	1,357	459	325	725						159	
OTHER RED OAKS	4,040	1,483	1,443	871	506	415	169	150	387	637						11	
HICKORY	1,123		1,023	490	373												
YELLOW BIRCH																	
HARD MAPLE	17,967	7,738	4,477	1,418	559	35	386	31	13	34						4	
SOFT MAPLE																	
BEECH	1,000																
SWEETGUM	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000							
TOUPELO AND BLACKBIRCH	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000							
ASH	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000							
COTTONWOOD	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000							
BASSWOOD	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000							
YELLOW-POPLAR	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000							
RAY AND WALNUT	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000							
BLACK CHERRY	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000							
BLACK WALNUT	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000							
SYCAMORE	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000							
BLACK LOCUST	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000							
ELM	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000							
OTHER EASTERN HARDWOODS	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000							
TOTAL HARDWOOD	61,640	24,901	13,445	10,718	15,217	12,014	4,012	3,361	1,811	2,334						369	
ALL SPECIES	677,280	357,812	165,940	77,520	50,163	28,176	10,972	6,365	3,124	3,337						410	

TABLE 14. --VOLUME OF ALL LIVE TREES ON COMMERCIAL FOREST LAND, BY SPECIES AND DIAMETER CLASS, 1980

SPECIES	ALL CLASSES	DIAMETER CLASS, INCHES AT BREAST HEIGHT										29.0 AND LARGER
		5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9		
THOUSAND CUBIC FEET												
SOFTWOOD:												
LONGLEAF PINE	411,606	23,400	48,312	104,941	126,711	57,197	30,988	10,606	3,656	5,795	--	
SLASH PINE	2,206,167	602,782	625,394	393,342	277,121	163,688	81,135	39,348	13,946	9,711	--	
SHORTLEAF PINE	--	--	--	--	--	--	--	--	--	--	--	
LOBLOLLY PINE	298,183	16,277	11,565	32,495	41,729	49,365	45,855	37,036	22,744	28,519	2,198	
POND PINE	99,239	9,611	11,005	21,196	23,002	11,667	6,122	5,475	2,099	3,062	--	
VIRGINIA PINE	--	--	--	--	--	--	--	--	--	--	--	
PITCH PINE	--	--	--	--	--	--	--	--	--	--	--	
TABLE-MOUNTAIN PINE	--	--	--	--	--	--	--	--	--	--	--	
SPRUCE PINE	5,148	--	737	--	--	--	771	718	1,640	1,282	--	
SAND PINE	197,912	60,138	60,112	46,337	17,925	7,418	3,255	2,010	--	717	--	
EASTERN WHITE PINE	--	--	--	--	--	--	--	--	--	--	--	
EASTERN HEMLOCK	--	--	--	--	--	--	--	--	--	--	--	
SPRUCE AND FIR	--	--	--	--	--	--	--	--	--	--	--	
BALDCYPRESS	162,296	11,929	20,364	22,173	21,950	20,587	14,035	16,003	17,972	13,046	4,237	
POND CYPRESS	757,437	97,927	145,044	151,689	146,262	104,357	54,394	27,469	13,878	13,899	2,518	
CEDARS	12,059	3,615	660	2,343	1,325	3,129	987	--	--	--	--	
TOTAL SOFTWOODS	4,150,047	825,679	939,293	774,516	656,025	417,408	237,542	138,665	75,935	76,031	8,953	
HARDWOOD:												
SELECT WHITE OAKS	8,681	347	1,302	1,484	1,103	2,041	391	1,185	--	--	828	
SELECT RED OAKS	3,590	386	518	581	687	723	--	--	695	--	--	
CHESTNUT OAK	--	--	--	--	--	--	--	--	--	--	--	
OTHER WHITE OAKS	365,849	13,565	17,239	23,583	30,371	34,197	27,204	32,587	34,652	99,055	53,396	
OTHER RED OAKS	524,848	52,635	67,638	9,866	64,167	69,651	45,858	35,661	22,914	56,809	29,049	
HICKORY	65,951	3,132	5,698	5,541	12,746	11,741	5,774	7,619	2,859	9,129	1,712	
YELLOW BIRCH	--	--	--	--	--	--	--	--	--	--	--	
YELLOW MAPLE	9,690	557	1,463	2,156	1,277	580	1,471	1,333	853	--	--	
HARD MAPLE	181,832	25,575	30,744	28,481	35,711	24,607	15,369	10,300	5,589	4,809	647	
SOFT MAPLE	--	--	--	--	--	--	--	--	--	--	--	
BEECH	1,961	--	--	--	511	--	--	803	647	--	--	
SWEETGUM	230,717	24,418	41,452	37,499	37,491	38,307	23,269	7,577	7,004	11,331	2,369	
TUPELO AND BLACKGUM	666,688	82,181	91,834	105,948	106,679	104,988	69,186	42,789	24,514	30,047	8,522	
ASH	155,399	25,304	18,916	28,187	20,678	18,131	17,048	10,536	10,387	6,007	205	
COTTONWOOD	--	--	--	--	--	--	--	--	--	--	--	
BASSWOOD	10,146	282	1,282	1,073	1,813	852	1,667	1,133	644	1,400	--	
YELLOW-POPLAR	10,322	251	890	1,073	1,114	1,981	1,268	2,614	1,131	--	--	
BAY AND MAGNOLIA	236,316	42,194	36,007	45,314	34,632	20,501	19,425	14,153	11,175	12,371	544	
BLACK CHERRY	--	--	--	--	--	--	--	--	--	--	--	
BLACK WALNUT	2,287	--	--	--	--	--	--	--	--	--	--	
SYCAMORE	--	--	--	--	--	--	--	--	--	--	--	
BLACK LOCUST	--	--	--	--	--	--	--	--	--	--	--	
ELM	35,241	4,236	5,597	6,240	5,928	6,900	3,630	2,265	--	445	--	
OTHER EASTERN HARDWOODS	186,207	46,349	49,066	30,849	31,089	3,931	7,469	4,086	2,184	1,184	--	
TOTAL HARDWOODS	2,695,125	321,830	370,502	397,875	386,475	349,666	239,029	174,641	124,117	233,718	97,272	
ALL SPECIES	6,845,172	1,147,509	1,309,795	1,172,391	1,042,500	767,074	476,571	313,306	200,052	309,749	106,225	

TABLE 15. -- VOLUME OF GROWING STOCK ON COMMERCIAL FOREST LAND, BY SPECIES AND D. ANETER CLASS, 1980

SPECIES	ALL CLASSES	DIAMETER CLASS, INCHES AT BREAST HEIGHT										29.0 AND LARGER	
		5.0- 6.9	7.0- 8.9	9.0- 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 20.9	21.0- 28.9			
THOUSAND CUBIC FEET													
SOFTWOOD:													
LONGLEAF PINE	411,003	23,400	47,709	104,941	126,711	57,197	30,988	10,606	3,656	5,795			
SLASH PINE	2,198,675	599,338	622,299	392,519	277,121	163,258	81,135	39,348	13,946	9,711			
SHORTLEAF PINE													
LOBLOLLY PINE	296,579	15,956	20,682	32,495	41,729	49,365	45,855	37,036	22,744	28,519			2,198
POND PINE	98,563	9,379	16,561	21,196	23,002	11,667	6,122	5,475	2,099	3,062			
VIRGINIA PINE													
PITCH PINE													
TABLE-MOUNTAIN PINE													
SPRUCE PINE	5,148		737										
SAND PINE	195,094	59,580	59,845	45,412	16,857	7,418	3,255	2,010	1,640	1,282			
EASTERN WHITE PINE													
EASTERN HEMLOCK													
SPRUCE AND FIR													
BALDCYPRESS	157,206	11,929	19,903	22,034	21,950	20,587	13,597	16,003	17,661	12,262			1,280
POND CYPRESS	740,481	94,028	142,236	148,795	144,121	102,755	52,916	26,859	13,417	12,836			2,518
CEDARS	9,850	2,910	283	1,912	977	2,781	987						
TOTAL SOFTWOODS	4,112,599	816,520	930,255	769,304	652,468	415,028	235,626	138,055	75,163	74,184			5,996
HARDWOOD:													
SELECT WHITE OAKS	8,681	347	1,302	1,484	1,103	2,041	391	1,185					828
SELECT RED OAKS	3,072	386		581	687	723			695				
CHESTNUT OAK													
OTHER WHITE OAKS	189,761	1,911	5,350	7,373	11,772	16,299	9,609	21,120	18,074	60,945			37,308
OTHER RED OAKS	463,540	43,160	60,299	70,993	58,106	63,288	42,448	32,910	20,703	49,236			22,397
HICKORY	62,490	2,755	4,944	5,248	12,255	11,308	5,774	7,619	2,322	8,553			1,712
YELLOW BIRCH													
HARD MAPLE	8,092	170	1,330	1,078	1,277	580	1,471	1,333	853				
SOFT MAPLE	147,932	18,706	24,210	24,714	29,315	21,533	12,485	8,735	4,742	2,845			647
BEECH	1,961				511			803	647				
SWEETGUM	218,003	21,956	38,112	36,473	36,910	37,091	22,082	7,099	6,452	10,508			1,320
TUPELO AND BLACKGUM	596,324	72,069	81,997	93,243	93,514	98,550	64,116	36,734	23,021	26,569			7,111
ASH	130,434	18,042	13,762	24,578	18,953	17,095	12,857	9,582	9,891	5,674			
COTTONWOOD													
BASSWOOD	8,818	282	1,282	1,073	1,539	852	1,667	627	644	852			
YELLOW-POPLAR	9,521	251	890	1,073	1,114	1,981	1,268	2,214		730			
GAY AND MAGNOLIA	194,286	31,656	27,669	35,195	32,104	16,618	17,621	13,111	9,372	10,394			544
BLACK CHERRY	1,391		856			535							
BLACK WALNUT													
SYCAMORE													
BLACK LOCUST													
ELM													
OTHER EASTERN HARDWOODS	29,464	3,081	4,654	4,903	5,928	6,526	2,107	2,265					
ELM	17,204	1,822	4,253	2,075	3,839	2,239	1,350	665		961			
TOTAL HARDWOODS	2,091,574	216,596	270,910	310,084	308,927	297,259	195,246	146,002	97,416	177,267			71,867
ALL SPECIES	6,204,173	1,033,116	1,201,165	1,079,388	961,395	712,287	430,872	284,057	172,579	251,451			77,863

TABLE 17. --NET ANNUAL GROWTH AND REMOVALS OF GROWING STOCK ON COMMERCIAL FOREST LAND, BY SPECIES, 1979

SPECIES	NET ANNUAL GROWTH	ANNUAL TIMBER REMOVALS
- - THOUSAND CUBIC FEET - -		
SOFTWOOD:		
YELLOW PINES	317,161	260,191
EASTERN WHITE PINE	--	--
SPRUCE AND FIR	--	--
CYPRESS	24,570	13,624
OTHER EASTERN SOFTWOODS	660	895
TOTAL SOFTWOODS	344,391	274,710
HARDWOOD:		
SELECT WHITE AND RED OAKS	231	885
OTHER WHITE AND RED OAKS	29,346	17,498
HICKORY	2,020	1,973
YELLOW BIRCH	--	--
HARD MAPLE	351	--
SWEETGUM	10,490	6,558
ASH, WALNUT, AND BLACK CHERRY	3,922	501
YELLOW-POPLAR	5	--
TUPELO AND BLACKGUM	17,989	5,032
BAY AND MAGNOLIA	10,989	3,073
OTHER EASTERN HARDWOODS	11,206	4,399
TOTAL HARDWOODS	87,109	39,919
ALL SPECIES	431,500	314,629

TABLE 18. --NET ANNUAL GROWTH AND REMOVALS OF SAWTIMBER ON COMMERCIAL FOREST LAND, BY SPECIES, 1979

SPECIES	NET ANNUAL GROWTH	ANNUAL TIMBER REMOVALS
- - - THOUSAND BOARD FEET - - -		
SOFTWOOD:		
YELLOW PINES	875,604	776,031
EASTERN WHITE PINE	--	--
SPRUCE AND FIR	--	--
CYPRESS	100,320	41,720
OTHER EASTERN SOFTWOODS	1,568	2,730
TOTAL SOFTWOODS	977,492	820,481
HARDWOOD:		
SELECT WHITE AND RED OAKS	1,343	3,120
OTHER WHITE AND RED OAKS	117,721	68,208
HICKORY	9,115	7,746
YELLOW BIRCH	--	--
HARD MAPLE	1,628	--
SWEETGUM	37,684	17,547
ASH, WALNUT, AND BLACK CHERRY	10,881	1,421
YELLOW-POPLAR	2,279	--
TUPELO AND BLACKGUM	52,778	19,848
BAY AND MAGNOLIA	26,013	10,137
OTHER EASTERN HARDWOODS	25,601	9,675
TOTAL HARDWOODS	285,043	137,702
ALL SPECIES	1,262,535	958,183

TABLE 19. -MORTALITY OF GROWING STOCK AND SAWTIMBER ON COMMERCIAL
FOREST LAND, BY SPECIES, 1979

SPECIES	GROWING STOCK	SAWTIMBER
	THOUSAND CUBIC FEET	THOUSAND BOARD FEET
SOFTWOOD:		
YELLOW PINES	19,321	38,379
EASTERN WHITE PINE	--	--
SPRUCE AND FIR	--	--
CYPRESS	2,185	4,248
OTHER EASTERN SOFTWOODS	--	--
TOTAL SOFTWOODS	21,506	42,627
HARDWOOD:		
SELECT WHITE AND RED OAKS	--	--
OTHER WHITE AND RED OAKS	3,890	15,887
HICKORY	307	1,639
YELLOW BIRCH	--	--
HARD MAPLE	--	--
SWEETGUM	2,150	5,145
ASH, WALNUT, AND BLACK CHERRY	727	880
YELLOW-POPLAR	--	--
TUPELO AND BLACKGUM	4,874	13,085
BAY AND MAGNOLIA	1,281	4,775
OTHER EASTERN HARDWOODS	2,224	6,149
TOTAL HARDWOODS	15,453	47,560
ALL SPECIES	36,959	90,187

TABLE 20. - VOLUME OF ALL LIVE TREES AND GROWING STOCK ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1980

OWNERSHIP CLASS	ALL LIVE TREES				GROWING STOCK					
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
						THOUSAND CUBIC FEET				
NATIONAL FOREST	546,380	408,356	49,062	71,500	17,462	522,531	407,076	47,542	62,715	5,198
OTHER PUBLIC FOREST	131,713	72,324	11,279	37,637	10,473	115,925	72,324	11,279	29,836	2,486
FOREST INDUSTRY FARMER	2,603,090	1,108,810	453,700	580,840	459,740	2,421,165	1,104,379	445,844	510,773	340,170
MISCELLANEOUS PRIVATE	789,722	302,106	90,962	144,086	252,568	682,065	301,435	88,456	120,652	171,522
	2,774,267	1,326,659	326,789	551,534	565,285	2,482,486	1,319,848	314,416	488,818	359,404
ALL OWNERSHIPS	6,845,172	3,218,255	931,792	1,385,597	1,309,528	6,204,173	3,205,062	907,537	1,212,794	878,780

TABLE 21. - VOLUME OF SAWTIMBER ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1980

OWNERSHIP CLASS	SMALL SAWTIMBER ¹				LARGE SAWTIMBER ²					
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
NATIONAL FOREST	1,249,753	1,104,333	91,464	49,507	4,449	32,111	164,331	96,369	117,108	13,709
OTHER PUBLIC FOREST	231,570	167,735	37,570	36,165	4,449	32,111	164,331	96,369	117,108	13,709
FOREST INDUSTRY FARMER	3,594,711	1,786,747	632,544	606,799	351,575	2,186,266	523,391	414,525	42,532	726,640
MISCELLANEOUS PRIVATE	994,208	2,520,526	186,227	266,134	151,716	1,116,198	511,961	38,265	510,904	464,830
	3,893,221	2,495,820	666,111	465,438	263,589	3,915,629	1,110,680	368,346	624,963	912,226
ALL OWNERSHIPS	9,963,463	5,985,161	1,739,971	1,377,441	860,879	6,608,431	3,229,651	885,480	1,476,436	3,117,405
¹ VOLUME OF SAWTIMBER TREES LESS THAN 15.0 INCHES AND										
² VOLUME OF SAWTIMBER TREES 15.0 INCHES AND LARGER AT D.B.H.										

¹ VOLUME OF SAWTIMBER TREES LESS THAN 15.0 INCHES AT D.B.H.
² VOLUME OF SAWTIMBER TREES 15.0 INCHES AND LARGER AT D.B.H.

TABLE 22. NET ANNUAL GROWTH AND REMOVALS OF SOUTHERN PINE, LARCH, AND OTHER SPECIES, 1979

OWNERSHIP CLASS	NET ANNUAL GROWTH				ANNUAL REMOVALS			
	ALL SPECIES	PINE	OTHER SOFTWOOD	HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	HARDWOOD
NATIONAL FOREST	30,183	23,711	1,229	5,243	30,183	23,711	1,229	5,243
OTHER PUBLIC FOREST	14,243	10,311	1,061	2,871	14,243	10,311	1,061	2,871
FOREST INDUSTRY	14,243	10,311	1,061	2,871	14,243	10,311	1,061	2,871
FARMER	42,403	32,743	1,773	7,887	42,403	32,743	1,773	7,887
MISCELLANEOUS PRIVATE	173,843	133,743	6,423	33,677	173,843	133,743	6,423	33,677
ALL OWNERSHIPS	431,553	313,711	25,230	92,612	431,553	313,711	25,230	92,612

TABLE 23. NET ANNUAL GROWTH AND REMOVALS OF SOUTHERN PINE, LARCH, AND OTHER SPECIES, 1979

OWNERSHIP CLASS	NET ANNUAL GROWTH				ANNUAL TIMBER REMOVALS			
	ALL SPECIES	PINE	OTHER SOFTWOOD	HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	HARDWOOD
NATIONAL FOREST	124,358	112,432	5,229	6,707	124,358	112,432	5,229	6,707
OTHER PUBLIC FOREST	22,617	17,656	1,061	3,899	22,617	17,656	1,061	3,899
FOREST INDUSTRY	44,822	274,736	48,402	61,365	44,822	274,736	48,402	61,365
FARMER	140,641	92,073	10,773	37,795	140,641	92,073	10,773	37,795
MISCELLANEOUS PRIVATE	530,097	378,707	36,423	114,967	530,097	378,707	36,423	114,967
ALL OWNERSHIPS	1,262,535	875,604	101,888	330,043	1,262,535	875,604	101,888	330,043

TABLE 24. - AVERAGE VOLUME OF GROWING STOCK, BY SPECIES GROUP, AND OTHER FOREST TYPES, BY OWNERSHIP CLASS, NATIONAL FOREST SYSTEM, AND PRIVATE LAND, BY FOREST TYPE, SPECIES GROUP, AND OTHER FOREST TYPE, BY OWNERSHIP CLASS

FOREST TYPE, SPECIES GROUP, AND CLASS OF MATERIAL	ALL OWNERSHIPS			NATIONAL FOREST SYSTEM			OTHER FOREST TYPES			FOREST TYPES			MISC. PRIVATE		
	SOFTWOOD	HARDWOOD	TOTAL	SOFTWOOD	HARDWOOD	TOTAL	SOFTWOOD	HARDWOOD	TOTAL	SOFTWOOD	HARDWOOD	TOTAL	SOFTWOOD	HARDWOOD	TOTAL
PINE TYPES:															
GROWING STOCK:															
SOFTWOOD	1,717	751	2,468	1,089	378	1,467	1,119	508	1,627	1,036	1,036	1,036	1,784	751	2,535
HARDWOOD	45	54	99	13	13	26	19	19	38	14	14	14	14	14	28
TOTAL	1,762	805	2,567	1,102	391	1,493	1,138	527	1,665	1,050	1,050	1,050	1,798	765	2,563
OTHER TIMBER:															
SOFTWOOD	-	3	3	-	13	13	-	14	14	-	4	4	-	4	8
HARDWOOD	-	11	11	-	21	21	-	14	14	-	19	19	-	19	38
TOTAL	-	14	14	-	34	34	-	28	28	-	23	23	-	23	46
OAK-PINE TYPES:															
GROWING STOCK:															
SOFTWOOD	2,307	607	2,914	1,089	378	1,467	1,119	508	1,627	1,036	1,036	1,036	1,784	751	2,535
HARDWOOD	1,407	405	1,812	162	37	199	78	78	156	58	58	58	119	331	450
TOTAL	3,714	1,012	4,726	1,251	415	1,666	1,197	586	1,783	1,094	1,094	1,094	1,903	1,082	2,985
OTHER TIMBER:															
SOFTWOOD	-	8	8	-	7	7	-	11	11	-	11	11	-	11	22
HARDWOOD	-	111	111	-	69	69	-	116	116	-	169	169	-	169	338
TOTAL	-	119	119	-	76	76	-	116	116	-	180	180	-	180	360
UPLAND HARDWOOD TYPES:															
GROWING STOCK:															
SOFTWOOD	227	56	283	404	130	534	462	117	579	126	36	162	238	56	288
HARDWOOD	1,407	405	1,812	162	37	199	78	78	156	58	58	58	119	331	450
TOTAL	1,634	461	2,095	566	167	733	462	195	655	1,987	616	2,190	612	1,432	387
OTHER TIMBER:															
SOFTWOOD	-	1	1	-	-	-	-	-	-	-	1	-	-	-	1
HARDWOOD	-	226	226	-	74	74	-	172	172	-	219	219	-	231	450
TOTAL	-	227	227	-	74	74	-	172	172	-	220	220	-	232	451
BOTTOMLAND HARDWOOD TYPES:															
GROWING STOCK:															
SOFTWOOD	1,760	567	2,327	3,528	807	4,335	1,002	291	1,293	1,625	543	2,068	593	1,784	594
HARDWOOD	2,435	905	3,340	3,731	1,297	5,028	2,074	786	2,860	3,102	826	2,680	893	2,777	998
TOTAL	4,195	1,472	5,667	7,259	2,104	9,363	3,076	1,077	4,153	4,727	1,369	4,738	1,487	4,561	1,592
OTHER TIMBER:															
SOFTWOOD	-	12	12	-	27	27	-	253	253	-	169	-	15	-	17
HARDWOOD	-	155	155	-	217	217	-	53	53	-	169	-	267	-	182
TOTAL	-	167	167	-	244	244	-	286	286	-	177	-	282	-	199
ALL TYPES:															
GROWING STOCK:															
SOFTWOOD	1,554	501	2,055	3,528	807	4,335	1,544	426	1,970	1,339	579	1,684	598	1,520	570
HARDWOOD	552	406	958	3,731	1,334	5,065	2,074	786	2,860	3,102	826	2,680	893	2,554	296
TOTAL	2,106	907	3,013	7,259	2,141	9,400	3,618	1,212	4,830	4,441	1,405	4,364	1,491	4,074	866
OTHER TIMBER:															
SOFTWOOD	-	12	12	-	27	27	-	253	253	-	169	-	15	-	17
HARDWOOD	-	167	167	-	244	244	-	286	286	-	177	-	282	-	199
TOTAL	-	179	179	-	271	271	-	539	539	-	346	-	297	-	216
ROUGH AND ROTTEN TREES:															
ALL TIMBER	2,411	1,000	3,411	1,112	1,112	2,224	1,002	1,077	2,079	1,112	973	2,124	1,211	4,374	968

TABLE 25. --LAND AREA, BY CLASS, MAJOR FOREST TYPE, AND SURVEY COMPLETION DATE, 1959, 1970, AND 1980

LAND USE CLASS	SURVEY COMPLETION DATE			CHANGE 1970-1980
	1959	1970	1980	
FOREST LAND:				
COMMERCIAL FOREST LAND:				
PINE AND OAK-PINE TYPES	4,336,100	4,435,120	4,261,470	-173,650
HARDWOOD TYPES	2,914,900	2,547,281	2,583,000	- 64,281
TOTAL	7,251,000	7,082,401	6,844,470	-237,931
NONCOMMERCIAL FOREST LAND:				
PRODUCTIVE-RESERVED	12,300	13,700	44,283	+ 30,583
UNPRODUCTIVE	62,400	39,326	25,862	- 13,464
TOTAL	74,700	53,026	70,145	+ 17,119
NONFOREST LAND:				
CROPLAND	1,079,300	817,629	808,616	- 9,013
PASTURE AND RANGE	468,200	797,964	880,115	+ 82,211
OTHER	790,800	914,273	1,061,207	+146,934
TOTAL	2,338,300	2,529,866	2,749,998	+220,132
ALL LAND ¹	9,664,000	9,665,293	9,664,613	680

¹ EXCLUDES ALL WATER AREAS.

TABLE 26. -- VOLUME OF SAWTIMBER, GROWING STOCK, AND ALL LIVE TIMBER ON COMMERCIAL FOREST LAND, BY SPECIES GROUP, DIAMETER CLASS, AND SURVEY COMPLETION DATE

SPECIES GROUP	YEAR	ALL CLASSES	DIAMETER CLASS (INCHES AT BREAST HEIGHT)								
			5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0 AND LARGER
SAWTIMBER (IN THOUSAND BOARD FEET)											
SOFTWOOD	1959	7,549,957	--	--	2,218,968	2,492,937	1,454,204	719,201	327,342	185,769	151,536
	1970	9,486,350	--	--	2,497,591	2,760,101	1,959,794	1,126,000	579,146	290,281	273,437
	1980	10,739,667	--	--	2,773,295	2,892,180	2,059,662	1,277,010	787,840	442,643	507,037
	1959	4,839,459	--	--	--	877,203	995,611	752,556	596,835	482,120	1,135,134
HARDWOOD	1970	5,205,065	--	--	--	902,245	1,029,231	823,390	617,487	503,129	1,329,583
	1980	5,832,227	--	--	--	1,039,232	1,199,094	879,840	713,498	507,386	1,493,177
	GROWING STOCK (IN THOUSAND CUBIC FEET)										
SOFTWOOD	1959	2,649,496	399,727	533,317	615,525	562,359	293,009	132,694	57,358	31,545	23,962
	1970	3,419,680	631,642	675,959	692,813	622,626	394,881	207,749	101,480	49,292	43,238
	1980	4,112,599	816,520	930,255	769,304	652,468	415,028	235,626	138,055	75,163	80,180
HARDWOOD	1959	1,723,765	171,825	205,379	267,872	260,762	246,805	167,012	122,127	92,573	189,410
	1970	1,846,173	183,431	238,771	273,078	268,206	255,139	182,732	126,353	96,607	221,856
	1980	2,091,574	216,596	270,910	310,084	308,927	297,259	195,246	146,002	97,416	249,134
ALL LIVE TIMBER (IN THOUSAND CUBIC FEET)											
SOFTWOOD	1959	2,670,828	404,159	538,354	619,541	565,465	294,669	133,736	57,607	31,887	25,410
	1970	3,448,474	638,643	682,340	697,342	621,078	397,106	209,401	101,910	49,792	45,862
	1980	4,150,047	825,679	939,293	774,516	656,025	417,408	237,542	138,665	75,935	84,984
HARDWOOD	1959	2,217,145	255,812	280,788	343,737	326,378	290,307	204,453	146,084	117,985	251,601
	1970	2,378,412	273,091	326,446	350,415	335,688	300,098	223,685	151,107	123,077	294,805
	1980	2,695,125	321,830	370,502	397,875	386,475	349,666	239,029	174,641	124,117	330,990

TO PROVIDE A BASIS FOR VALID COMPARISONS, ADJUSTMENTS HAVE BEEN MADE TO ALLOW FOR DIFFERENCES IN VOLUME TABLES AND SAWTIMBER SPECIFICATIONS USED IN PREVIOUS SURVEYS.

and 1 east Florida has decreased by 238,000 acres, 70 percent of the land in this 21-county area. The long-term, almost one-half the commercial forest land, percent of softwood region, estimated from man's planting or seeding efforts, inventory of softwood and hardwood growth stock has increased by 20 and 13 percent, respectively. Net annual growth of growing stock has increased 63 cubic feet per acre of commercial forest land. Net annual growth of growing stock trees exceeded annual timber removals by percent.

1970, area of

1970, area of

1970, area of

1970, area of



The Forest Service, U.S. Department of Agriculture, is dedicated to the principle of multiple use management of the Nation's forest resources for sustained yields of wood, water, forage, wildlife, and recreation. Through forestry research, cooperation with the States and private forest owners, and management of the National Forests and National Grasslands, it strives—as directed by Congress—to provide increasingly greater service to a growing Nation.

USDA policy does not permit discrimination because of race, color, national origin, sex or religion. Any person who believes he or she has been discriminated against in any USDA-related activity should write immediately to the Secretary of Agriculture, Washington, D.C. 20250.

NUMBER 54
on microfiche

United States
Department
of Agriculture

Southeastern Forest
Experiment Station

Forest Service
Resource Bulletin

SE-55

Forest Statistics for Central Florida, 1980



FOREWORD

This report highlights the principal findings of the fifth forest survey of Central Florida. Fieldwork began in December 1979 and was completed in March 1980. Four previous surveys, completed in 1936, 1949, 1959, and 1970, provide statistics for measuring changes and trends over the past 44 years. The primary emphasis of this report is on the changes and trends since 1970. Previously reported figures have been adjusted to provide the best estimate of change.

Renewable Resources Evaluation (formerly Forest Survey) is authorized by the Forest and Rangeland Renewable Resources Research Act of 1978. The survey is a continuing, nationwide undertaking by the regional experiment stations of the Forest Service, USDA. In Florida, Georgia, North Carolina, South Carolina, and Virginia, Renewable Resources Evaluation is administered through the Southeastern Forest Experiment Station, with headquarters in Asheville, North Carolina. The primary objective of the survey is to periodically inventory and evaluate forest and related resources. These inventories provide information on the extent and condition of forest lands, volume of timber, and rates of timber growth and removals. These data and evaluations help provide a basis for formulating forest policies and programs and for the orderly development and use of the resources.

The 20-county area covered by this report is one of four survey units in Florida. Similar reports, USDA Forest Service Resource Bulletins SE-52 and SE-53, have been issued for Northwest and Northeast Florida. A comparable report for South Florida will be issued as processing of the statewide survey progresses. When completed, this survey will provide updated statistics on the forest resource for all of Florida.

The Southeastern Station gratefully acknowledges the cooperation and assistance provided by the Division of Forestry, Florida Department of Agriculture and Consumer Services, in collecting the field data. Appreciations are also expressed for the excellent cooperation of other public agencies, forest industry, and private landowners in providing information and access to the sample locations.



JOE P. McCLURE
Project Leader

March 1981
Southeastern Forest Experiment Station
Asheville, North Carolina

FOREST STATISTICS

FOR

CENTRAL FLORIDA,

1980

by

Raymond M. Sheffield, Resource Analyst

Asheville, North Carolina

CONTENTS

	<i>Page</i>
HIGHLIGHTS	1
HOW THE INVENTORY IS MADE.....	3
RELIABILITY OF THE DATA.....	4
DEFINITIONS OF TERMS.....	6
 COUNTY TABLES	
1. Area, by land class.....	13
2. Area of commercial forest land, by ownership class.....	14
3. Area of commercial forest land, by forest-type group.....	15
4. Area of commercial forest land, by stand-size class.....	16
5. Area of commercial forest land, by site class.....	16
6. Area of commercial forest land, by stocking classes of growing-stock trees.....	17
7. Volume of sawtimber and growing stock on commercial forest land, by species group.....	18
8. Net annual growth of sawtimber and growing stock on commercial forest land, by species group.....	19
9. Annual removals of sawtimber and growing stock on commercial forest land, by species group	20
 UNIT TABLES	
10. Area of commercial forest land, by forest type and ownership class.....	21
11. Area of commercial forest land, by ownership and stocking classes of growing-stock trees.....	21
12. Volume of timber on commercial forest land, by class and species group	22
13. Number of growing-stock trees on commercial forest land, by species and diameter class	23
14. Volume of all live trees on commercial forest land, by species and diameter class	24
15. Volume of growing stock on commercial forest land, by species and diameter class	25
16. Volume of sawtimber on commercial forest land, by species and diameter class	26
17. Net annual growth and removals of growing stock on commercial forest land, by species	27
18. Net annual growth and removals of sawtimber on commercial forest land, by species	27
19. Mortality of growing stock and sawtimber on commercial forest land, by species	28
20. Volume of all live trees and growing stock on commercial forest land, by ownership class and species group	29
21. Volume of sawtimber on commercial forest land, by ownership class and species group	29
22. Net annual growth and removals of growing stock on commercial forest land, by ownership class and species group	30
23. Net annual growth and removals of sawtimber on commercial forest land, by ownership class and species group	30
24. Average net volume per acre of sawtimber, growing stock, and other live timber on commercial forest land, by ownership class, major forest type, and species group	31
25. Land area, by class, major forest type, and survey completion date.....	32
26. Volume of sawtimber, growing stock, and all live timber on commercial forest land, by species group, diameter class, and survey completion date	33

HIGHLIGHTS

Since 1970 in Central Florida

☐ *area of commercial forest land has decreased by 202,000 acres, or by about 8 percent.* This loss represents some slowdown in the rate of diversion of commercial forest land to nonforest uses from that found in previous inventories. About 399,000 acres were diverted to other land uses since 1970, while 197,000 acres were added to the commercial forest land base. Over 62 percent of the diversions were to urban land uses, about 25 percent to agricultural uses, and most of the remaining 13 percent to noncommercial forests. Commercial forests now occupy 2.5 million acres, or 25 percent of the land area in this 20-county area.

☐ *area of commercial forest land owned by farmers has decreased by 369,000 acres, or by 47 percent.* Miscellaneous private owners have increased their holdings by 4 percent. They now own 1.7 million acres—68 percent of all commercial forests. Over 59 percent of the commercial forests in this ownership group are owned by corporations other than forest industries. Public agencies control 351,000 acres—9 percent more than in 1970. Forest industries own only 42,000 acres in Central Florida.

☐ *man-related activities and natural disturbances have occurred on about 49 percent of the commercial forest acreage.* Prescribed burning was the predominant activity, occurring on an estimated 443,000 acres, followed by grazing on about 170,000 acres and final harvests on 169,000 acres. Almost 87 percent of the harvested acres did not have adequate stocking of suitable species when the survey was made. Only 55,000 acres have been artificially regenerated. Only one-fourth of this planting activity occurred following harvest operations; most of the planting occurred on nonforest land and poorly stocked commercial forest land. Intermediate cutting occurred on 115,000 acres. Wildfires, disease, weather, insects, and other natural destructive agents caused significant damage on 165,000 acres.

☐ *the decline in area of commercial forest land occurred in the pine and hardwood forest-type groups.* Oak-pine types increased by 25,000 acres, or 11 percent. Pine types decreased by 130,000 acres, or by 16 percent. Land clearing accounted for over 57 percent of this net loss. Hardwood types, which cover 1.5 million acres in the region, have decreased by 97,000 acres. Land clearing was also the major contributor to this decline. The hardwood types include nearly 100,000 acres of palm and other tropical forest types.

☐ *average basal area of all live trees 5.0 inches d.b.h. and larger has increased from 46 to 60 square feet per acre of commercial forest land.* Rough and rotten trees make up over 21 percent of this stocking. Almost 54 percent of the commercial forests are nonstocked or poorly stocked with growing-stock trees. The number of 2- and 4-inch softwoods has decreased by 18 and 5 percent, respectively, while 2- and 4-inch hardwoods increased by 50 and 9 percent, respectively.

☐ *volume of softwood growing stock has increased from 1.1 to 1.3 billion cubic feet, or by 19 percent.* Cypress volume, which accounts for 57 percent of the inventory, increased by 16 percent. Slash pine, the second leading species, increased in volume by 39 percent. The softwood volume increase occurred across the entire range of diameter classes. The current inventory of softwood growing stock includes 4.1 billion board feet of sawtimber, 27 percent more than in 1970.

☐ *volume of hardwood growing stock has increased from 0.8 to 1.0 billion cubic feet, or by 24 percent.* The increase occurred across the entire range of diameter classes. All the major hardwood species showed gains in volume. The soft maples have replaced blackgum and tupelo as the leading hardwood species in terms of growing-stock volume. The current inventory of hardwood growing stock includes 2.9 billion board feet of sawtimber, up by 30 percent. Red and white oak species are the leading hardwoods in terms of sawtimber volume.

In 1979

☐ *net annual growth of growing stock totaled 96 million cubic feet, an average of 39 cubic feet per acre of commercial forest land. Net growth exceeded removals by 80 percent for softwoods and by 229 percent for hardwoods. This growth surplus was found in all ownership classes. Yellow pines accounted for 45 percent of the net growth, other softwoods 22 percent, and hardwoods the remaining 33 percent. The net growth of all species included 382 million board feet of sawtimber.*

☐ *removals of growing stock totaled 46 million cubic feet and included 177 million board feet of sawtimber. Softwood species accounted for 79 percent of the growing-stock removals. Softwood removals have increased by 9 percent since the last inventory, while hardwood removals have declined by 38 percent. Pulpwood production has decreased from an average annual harvest of 178,000 cords for the 5 years prior to the last inventory to 87,000 cords for the 5 years prior to this latest inventory.*

☐ *mortality of growing stock totaled 24 million cubic feet and included 77 million board feet of sawtimber. Softwoods accounted for 53 percent of the mortality. The leading identifiable causes of death were weather, fire, disease, suppression, and insects. Mortality reduced gross growth by 20 percent.*

HOW THE INVENTORY IS MADE

The method of the inventory is a sampling procedure designed to provide reliable statistics primarily at the State and Survey Unit levels. Individual county statistics are presented so that any combination of counties may be added together until a total is large enough to meet the desired degree of reliability. Procedures were as follows:

1. Initial estimates of forest and nonforest areas were based on the classification of 20,076 sample clusters systematically spaced on the latest aerial photographs available. A subsample of 4,233 of the 16-point clusters was ground checked, and a linear regression was fitted to the data to develop the relationship between the photo and ground classification of the subsample. This procedure provides a means for adjusting the initial estimates of area for change in land use since date of photography and for photo misclassifications.

2. Estimates of timber volume and forest classifications were based on measurements recorded at 873 ground sample locations systematically distributed within the commercial forest land. The plot design at each location was based on a cluster of 10 points. In most cases, variable plots, using a basal-area factor of 37.5 square feet per acre, were systematically spaced within a single forest condition at 5 of the 10 cluster points. Trees less than 5 inches d.b.h. were tallied on a fixed-radius plot around each point center.

3. Equations prepared from detailed measurements collected on standing trees in this Unit, and similar measurements taken throughout the Southeast, were used to compute the volume of individual tally trees. A mirror caliper and sectional aluminum poles were used to obtain the additional measurements on these standing trees required to construct volume equations.

4. Felled trees were measured at 10 active cutting operations. These data will be pooled with similar measurements taken in the State to supplement the standing-tree volume data and to generate utilization factors for product and species groups that will be analyzed at the State level.

5. Estimates of growth, removals, and mortality were determined from the remeasurement of 964 permanent sample plots established in the fourth survey.

6. Ownership information was collected from correspondence, public records, and local contacts. In those counties where the sample missed a particular ownership class, temporary sample plots were added on these lands.

7. All field data were sent to Asheville for editing and were punched into cards and stored for machine computing, sorting, and tabulation. Final estimates were based on statistical summaries of the data.

RELIABILITY OF THE DATA

Statistical analysis of these data indicates the following sampling errors in terms of one standard error (two times out of three):

	<i>Percent</i>
Per million acres of commercial forest land.....	1.91
Per billion cubic feet of growing stock	6.20
Per billion cubic feet of net annual growth.....	1.29
Per billion cubic feet of annual removals.....	2.30

*SAMPLING ERRORS FOR COUNTY AND UNIT TOTALS,¹ IN TERMS OF
ONE STANDARD ERROR*

COUNTY	COMMERCIAL FOREST AREA	CUBIC-FOOT VOLUME OF GROWING STOCK		
		INVENTORY	GROWTH	REMOVALS
- - - - - <i>SAMPLING ERROR</i> ² - - - - -				
BREVARD	6.34	18.10	19.79	58.62
CITRUS	3.00	16.41	22.30	40.28
DE SOTO	8.24	31.91	29.18	69.31
HARDEE	6.04	16.66	20.36	39.00
HERNANDO	3.52	16.12	15.70	39.18
HIGHLANDS	6.67	23.15	26.42	71.72
HILLSBOROUGH	5.53	17.80	16.39	43.22
INDIAN RIVER	10.34	42.36	30.25	100.53
LAKE	3.24	11.15	11.20	30.09
MANATEE	7.33	36.44	33.89	36.00
OKEECHOBEE	8.97	22.58	28.35	100.30
ORANGE	4.49	14.25	14.01	36.09
OSCEOLA	4.27	12.51	10.60	32.49
PASCO	4.36	14.08	12.93	46.85
PINELLAS	12.89	46.54	45.90	53.25
POLK	3.86	12.02	11.42	27.09
ST. LUCIE	9.46	25.96	33.92	46.03
SARASOTA	8.85	21.63	26.49	44.79
SEMINOLE	5.55	19.66	16.16	50.24
SUMTER	4.07	14.61	14.26	38.69
UNIT TOTAL	1.22	4.11	4.16	10.75

¹ SAMPLING ERROR OF BREAKDOWNS OF COUNTY AND UNIT TOTALS
MAY BE COMPUTED WITH THE FOLLOWING FORMULA:

$$E = \frac{(SE) \sqrt{(\text{SPECIFIED VOLUME OR AREA})}}{\sqrt{(\text{VOLUME OR AREA TOTAL IN QUESTION})}}$$

WHERE: E = SAMPLING ERROR OF THE VOLUME OR AREA TOTAL IN
QUESTION.

SE = SPECIFIED SAMPLING ERROR IN TABLE.

² BY RANDOM-SAMPLING FORMULA (IN PERCENT).

DEFINITIONS OF TERMS

Acceptable trees.--Growing-stock trees of commercial species that meet specified standards of size and quality, but not qualifying as desirable trees.

Basal area.--The area in square feet of the cross section at breast height of a single tree or of all the trees in a stand, usually expressed as square feet of basal area per acre.

Commercial forest land.--Forest land producing or capable of producing crops of industrial wood and not withdrawn from timber utilization.

Commercial species.--Tree species presently or prospectively suitable for industrial wood products.

Cropland.--Land under cultivation within the past 24 months, including orchards and land in soil-improving crops, but excluding land cultivated in developing improved pasture. Also includes idle farmland.

Desirable trees.--Growing-stock trees of commercial species having no serious defects in quality limiting present or prospective use for timber products, of relatively high vigor, and containing no pathogens that may result in death or serious deterioration before rotation age.

Diameter class.--A classification of trees based on diameter outside bark, measured at breast height (4-1/2 feet above the ground). D.b.h. is the common abbreviation for "diameter at breast height." Two-inch-diameter classes are commonly used in Forest Survey, with the even inch the approximate midpoint for a class. For example, the 6-inch class includes trees 5.0 through 6.9 inches d.b.h., inclusive.

Farm.--Lands on which agriculture operations are being conducted and sale of agriculture products totaled \$1,000 or more during the year.

Farm operator.--A person who operates a farm, either doing the work himself or directly supervising the work.

Farmer-owned lands.--Lands owned by farm operators.

Forest industry lands.--Lands owned by companies or individuals operating wood-using plants.

Forest land.--Land at least 16.7 percent stocked by forest trees of any size, or formerly having had such tree cover, and not currently developed for nonforest use.

Forest type.--A classification of forest land based upon the species forming a plurality of live-tree stocking.

Longleaf-slash pine.--Forests in which longleaf or slash pine, singly or in combination, comprises a plurality of the stocking. (Common associates include oak, hickory, and gum.)

Loblolly-shortleaf pine.--Forests in which loblolly pine, shortleaf pine, or other southern yellow pines, except longleaf or slash pine, singly or in combination, comprise a plurality of the stocking. (Common associates include oak, hickory, and gum.)

Oak-pine.--Forests in which hardwoods (usually upland oaks) comprise a plurality of the stocking but in which pines comprise 25 to 50 percent of the stocking. (Common associates include gum, hickory, and yellow-poplar.)

Oak-hickory.--Forests in which upland oaks or hickory, singly or in combination, comprise a plurality of the stocking, except where pines comprise 25 to 50 percent, in which case the stand would be classified oak-pine. (Common associates include yellow-poplar, elm, maple, and black walnut.)

Oak-gum-cypress.--Bottomland forests in which tupelo, blackgum, sweetgum, oaks, or southern cypress, singly or in combination, comprises a plurality of the stocking, except where pines comprise 25 to 50 percent, in which case the stand would be classified oak-pine. (Common associates include cottonwood, willow, ash, elm, hackberry, and maple.)

Elm-ash-cottonwood.--Forests in which elm, ash, or cottonwood, singly or in combination, comprises a plurality of the stocking. (Common associates include willow, sycamore, beech, and maple.)

Gross growth.--Annual increase in net volume of trees in the absence of cutting and mortality.

Growing-stock trees.--Live trees of commercial species qualifying as desirable or acceptable trees.

Growing-stock volume.--Net volume in cubic feet of growing-stock trees 5.0 inches d.b.h. and over from a 1-foot stump to a minimum 4.0-inch top diameter outside bark of the central stem, or to the point where the central stem breaks into limbs. (Net volume in primary forks is included.)

Hardwoods.--Dicotyledonous trees, usually broad-leaved and deciduous.

Soft hardwoods.--Soft-textured hardwoods such as boxelder, red and silver maple, buckeye, hackberry, loblolly-bay, silverbell (in mountains), butternut, sweetgum, yellow-poplar, cucumbertree, magnolia, sweetbay, water tupelo, blackgum, sycamore, cottonwood, black cherry, willow, basswood, and elm.

Hard hardwoods.--Hard-textured hardwoods such as Florida and sugar maple, birch, hickory, dogwood, persimmon (forest grown), beech, ash, honeylocust, holly, black walnut, mulberry, all commercial oaks, and black locust.

Idle farmland.--Includes former croplands, orchards, improved pastures and farm sites not tended within the past 2 years, and presently less than 16.7 percent stocked with trees.

Improved pasture.--Land currently improved for grazing by cultivation, seeding, irrigation, or clearing of trees or brush.

Industrial wood.--All roundwood products except fuelwood.

Land area.--The area of dry land and land temporarily or partly covered by water such as marshes, swamps, and river flood plains (omitting tidal flats below mean high tide); streams, sloughs, estuaries, and canals less than 1/8 of a statute mile in width; and lakes, reservoirs, and ponds less than 40 acres in area.

Logging residues.--The unused portions of trees cut or killed by logging.

Miscellaneous Federal lands.--Federal lands other than National Forests, lands administered by the Bureau of Land Management, and Indian lands.

Miscellaneous private lands - corporate.--Lands owned by private corporations other than forest industry.

Miscellaneous private lands - individual.--Privately owned lands other than forest-industry, farmer-owned, or corporate lands.

Mortality.--Number or sound-wood volume of live trees dying from natural causes during a specified period.

National Forest land.--Federal lands which have been legally designated as National Forests or purchase units, and other lands under the administration of the Forest Service, including experimental areas and Bankhead-Jones Title III lands.

Net annual growth.--The increase in volume for a specific year.

Net volume.--Gross volume less deductions for rot, sweep, or other defect affecting use for timber products.

Noncommercial forest land.--(a) Unproductive forest land incapable of yielding crops of industrial wood because of adverse site conditions, and (b) productive-reserved forest land.

Noncommercial species.--Tree species of typically small size, poor form, or inferior quality which normally do not develop into trees suitable for industrial wood products.

Nonforest land.--Land that has never supported forests and lands formerly forested where timber management is precluded by development for other uses.

Nonstocked land.--Commercial forest land less than 16.7 percent stocked with growing-stock trees.

Other Federal lands.--Federal lands other than National Forests, including lands administered by the Bureau of Land Management, Bureau of Indian Affairs, and other Federal agencies.

Other public lands.--Publicly owned lands other than National Forests.

Overstocked areas.--Areas where growth of trees is significantly reduced by excessive numbers of trees.

Poletimber trees.--Growing-stock trees of commercial species at least 5.0 inches in d.b.h. but smaller than sawtimber size.

Productive-reserved forest land.--Forest land sufficiently productive to qualify as commercial forest land, but withdrawn from timber utilization through statute or administrative designation.

Rangeland.--Land on which the natural plant cover is composed principally of native grasses, forbs, or shrubs valuable for forage.

Rotten trees.--Live trees of commercial species that do not contain at least one 12-foot saw log, or two noncontiguous saw logs, each 8 feet or longer, now or prospectively, primarily because of rot or missing sections, and with less than one-third of the gross tree volume in sound material.

Rough trees.--(a) Live trees of commercial species that do not contain at least one 12-foot saw log, or two noncontiguous saw logs, each 8 feet or longer, now or prospectively, primarily because of roughness, poor form, splits, and cracks, and with less than one-third of the gross tree volume in sound material; and (b) all live trees of noncommercial species.

Salvable dead trees.--Standing or down dead trees that are considered merchantable by Forest Survey standards.

Saplings.--Live trees 1.0 to 5.0 inches in diameter at breast height.

Saw log.--A log meeting minimum standards of diameter, length, and defect, including logs at least 8 feet long, sound and straight, and with a minimum diameter inside bark for softwoods of 6 inches (8 inches for hardwoods).

Saw-log portion.--That part of the bole of sawtimber trees between the stump and the saw-log top.

Saw-log top.--The point on the bole of sawtimber trees above which a saw log cannot be produced. The minimum saw-log top is 7.0 inches d.o.b. for softwoods and 9.0 inches d.o.b. for hardwoods.

Sawtimber trees.--Live trees of commercial species containing at least a 12-foot saw log, or two noncontiguous saw logs, each 8 feet or longer, and with at least one-third of the gross board-foot volume between the 1-foot stump and minimum saw-log top being sound. Softwoods must be at least 9.0 inches and hardwoods at least 11.0 inches in diameter at breast height.

Sawtimber volume.--Net volume of the saw-log portion of live sawtimber in board-foot International 1/4-inch rule.

Seedlings.--Live trees less than 1.0 inch in diameter at breast height that are expected to survive and develop.

Site class.--A classification of forest land in terms of inherent capacity to grow crops of industrial wood based on fully stocked natural stands.

Class 1.--Sites capable of producing 165 or more cubic feet per acre annually.

Class 2.--Sites capable of producing 120 to 165 cubic feet per acre annually.

Class 3.--Sites capable of producing 85 to 120 cubic feet per acre annually.

Class 4.--Sites capable of producing 50 to 85 cubic feet per acre annually.

Class 5.--Sites incapable of producing 50 cubic feet per acre annually, but excluding unproductive sites.

Softwoods.--Coniferous trees, usually evergreen, having needles or scale-like leaves.

Pines.--Yellow pine species which include loblolly, longleaf, slash, shortleaf, pitch, Virginia, Table Mountain, sand, and spruce pine.

Other softwoods.--White pine, hemlock, cypress, eastern redcedar, white-cedar, spruce, and fir.

Stand-size class.--A classification of forest land based on the size class of growing-stock trees on the area.

Sawtimber stands.--Stands at least 16.7 percent stocked with growing-stock trees, with half or more of total stocking in sawtimber or poletimber trees, and with sawtimber stocking at least equal to poletimber stocking.

Poletimber stands.--Stands at least 16.7 percent stocked with growing-stock trees of which half or more of this stocking is in poletimber and sawtimber trees, and with poletimber stocking exceeding that of sawtimber.

Sapling-seedling stands.--Stands at least 16.7 percent stocked with growing-stock trees of which more than half of the stocking is saplings and seedlings.

State, county, and municipal lands.--Lands owned by States, counties, and local public agencies or municipalities, or lands leased to these governmental units for 50 years or more.

Stocking.--The degree of occupancy of land by trees, measured by basal area or the number of trees in a stand and spacing in the stand, compared to a minimum standard, depending on tree size, to fully utilize the growth potential of the land. (See page 12.)

Timber removals.--The net volume of growing-stock trees removed from the inventory by harvesting; cultural operations, such as stand improvement; land clearing, or changes in land use.

Unproductive forest land.--Forest land incapable of producing 20 cubic feet per acre of industrial wood under natural conditions, because of adverse site conditions.

Upper-stem portion.--That part of the main stem or fork of sawtimber trees above the saw-log top to a minimum top diameter of 4.0 inches outside bark or to the point where the main stem or fork breaks into limbs.

Urban and other areas.--Areas within the legal boundaries of cities and towns; suburban areas developed for residential, industrial, or recreational purposes; school yards; cemeteries; roads; railroads; airports; beaches; powerlines and other rights-of-way; or other nonforest land not included in any other specified land use class.

STOCKING STANDARD

D.B.H. CLASS	MINIMUM NUMBER OF TREES PER ACRE FOR FULL STOCKING	MINIMUM BASAL AREA PER ACRE FOR FULL STOCKING	PERCENT STOCKING ASSIGNED EACH TALLY TREE ¹
SEEDLINGS	600	--	5.0
2	560	--	5.4
4	460	--	6.5
6	340	67	5.8
8	240	84	4.8
10	155	85	4.3
12	115	90	4.0
14	90	96	3.8
16	72	101	3.7
18	60	106	3.5
20	51	111	3.5

¹ STOCKING PERCENTAGES BASED ON TALLY AT ALL 10 POINTS OF A 10-POINT CLUSTER OF PLOTS. TREES LESS THAN 5 INCHES D.B.H. WERE TALLIED ON CIRCULAR, 1/300-ACRE PLOTS AT EACH POINT. TREES 5.0 INCHES D.B.H. AND LARGER WERE TALLIED ON VARIABLE PLOTS USING A BASAL AREA FACTOR OF 37.5 AT EACH SAMPLE POINT.

OVERSTOCKED--OVER 130 PERCENT

FULLY STOCKED--100-130 PERCENT

MEDIUM STOCKED--60-99 PERCENT

POORLY STOCKED--16.7-59 PERCENT

NONSTOCKED--LESS THAN 16.7 PERCENT

CUBIC FEET OF WOOD PER AVERAGE CORD (EXCLUDING BARK)

D.B.H. CLASS	ALL SPECIES	PINE	OTHER SOFTWOOD	HARDWOOD
6	62.9	61.0	68.2	60.0
8	71.1	68.1	76.0	68.4
10	76.0	73.1	81.4	73.4
12	78.8	76.7	85.2	76.4
14	81.0	79.4	88.2	78.4
16	82.2	81.6	90.4	79.8
18	83.1	83.3	92.3	80.8
20	83.2	84.8	93.8	81.5
22	84.6	86.0	95.1	82.1
24+	84.9	87.0	97.8	83.3
AVERAGE	76.3	73.8	80.9	74.9

COUNTY TABLES

THE COUNTY TABLES ARE INTENDED FOR USE IN COMPILING FOREST RESOURCE ESTIMATES FOR GROUPS OF COUNTIES. BECAUSE THE SAMPLING PROCEDURE USED BY THE FOREST SURVEY WAS INTENDED PRIMARILY TO FURNISH INVENTORY DATA FOR THE SURVEY UNIT AS A WHOLE, INDIVIDUAL COUNTY ESTIMATES HAVE LIMITED AND VARIABLE ACCURACY. AS COUNTY TOTALS ARE BROKEN DOWN BY VARIOUS SUBDIVISIONS, THE POSSIBILITY OF ERROR INCREASES AND IS GREATEST FOR THE SMALLEST ITEMS. THE ORDER OF THIS INCREASE CAN BE COMPUTED WITH THE FORMULA ON PAGE 5.

TABLE 1. --AREA, BY LAND CLASS AND COUNTY, 1980

COUNTY	ALL LAND ¹	FOREST LAND				NONFOREST LAND ²
		TOTAL	COMMERCIAL FOREST	UNPRODUCTIVE FOREST	PRODUCTIVE-RESERVED	
-- ACRES --						
BREVARD	658,846	128,103	119,334	8,739	30	530,743
CITRUS	390,791	236,798	236,229	--	569	153,993
DE SOTO	405,498	51,980	51,980	--	--	353,518
HARDEE	408,445	86,999	86,492	--	507	321,446
HERNANDO	313,240	179,228	179,228	--	--	134,012
HIGHLANDS	661,215	101,984	95,709	3,042	3,233	559,231
HILLSBOROUGH	670,891	145,958	134,226	7,391	4,341	524,933
INDIAN RIVER	320,367	44,071	36,925	7,146	--	276,296
LAKE	640,554	269,376	263,130	3,159	3,087	371,178
MANATEE	479,858	66,378	55,501	5,666	5,211	413,480
OKEECHOBEE	495,998	42,120	40,534	1,586	--	453,878
ORANGE	584,937	203,638	179,487	--	24,151	381,299
OSCEOLA	867,706	202,656	193,644	--	9,012	665,050
PASCO	483,683	163,832	163,497	157	178	319,851
PINELLAS	180,310	32,054	23,061	7,677	1,316	148,256
POLK	1,191,263	271,189	254,021	14,438	2,730	920,074
ST. LUCIE	368,443	53,325	51,504	1,586	235	315,118
SARASOTA	363,620	65,159	55,277	1,132	8,750	304,461
SEMINOLE	199,572	90,968	89,037	--	1,931	108,604
SUMTER	364,897	170,486	164,859	5,567	60	194,411
TOTAL	10,056,134	2,606,302	2,473,675	67,286	65,341	7,449,832

¹FROM U. S. BUREAU OF THE CENSUS AND U. S. GEOLOGICAL SURVEY.

²INCLUDES 139,404 ACRES OF WATER ACCORDING TO SURVEY STANDARDS OF AREA CLASSIFICATION, BUT DEFINED BY THE GEOLOGICAL SURVEY AND BUREAU OF THE CENSUS AS LAND.

TABLE 2. -- AREA OF COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND COUNTY, 1980

COUNTY	ALL OWNERSHIPS	OWNERSHIP CLASS						FARMER	MISCELLANEOUS PRIVATE	
		NATIONAL FOREST	MISCELLANEOUS FEDERAL	STATE	COUNTY AND MUNICIPAL	FOREST INDUSTRY ¹	INDIVIDUAL			
							CORPORATE		INDIVIDUAL	
					ACRES					
BREVARD	119,334	--	22,210	--	463	7,200	26,598	33,847	29,016	
CITRUS	236,229	--	3,233	40,804	342	--	13,714	84,885	93,251	
DE SOTO	51,980	--	31	731	130	--	20,435	22,989	7,664	
HARDEE	86,492	--	--	675	76	--	36,746	44,912	4,083	
HERNANDO	179,228	--	3,529	32,430	1,887	--	10,876	70,691	59,815	
HIGHLANDS	95,709	--	22,500	32,978	355	--	11,980	35,937	23,959	
HILLSBOROUGH	134,226	--	930	15,628	2,422	--	2,680	72,364	40,202	
INDIAN RIVER	36,925	--	--	517	446	--	14,983	8,991	11,988	
LAKE	263,130	64,104	280	13,180	356	318	35,952	66,767	82,173	
MANATEE	55,501	--	--	187	--	--	12,315	27,708	15,390	
OKEECHOBEE	40,534	--	--	200	--	--	27,933	6,207	6,542	
ORANGE	179,487	--	540	200	854	--	18,402	88,949	70,542	
OSCEOLA	193,644	--	--	5,900	314	--	39,600	110,873	36,957	
PASCO	163,497	--	--	21,780	1,881	29,169	33,203	44,263	33,201	
PINELLAS	23,061	--	--	--	573	--	4,497	13,493	4,498	
POLK	254,021	--	15,000	17,965	1,862	--	49,029	115,366	54,799	
ST. LUCIE	51,504	--	--	76	158	--	3,016	39,207	9,047	
SARASOTA	55,277	--	--	--	44	--	2,301	27,619	25,313	
SEMINOLE	89,037	--	157	--	188	--	19,802	25,456	42,434	
SUMTER	164,859	--	110	53,522	1,188	5,360	24,010	48,016	33,841	
TOTAL	2,473,675	64,104	68,520	204,661	13,351	42,047	408,072	988,540	684,380	

¹ NOT INCLUDING 15,176 ACRES OF FARMER-OWNED AND MISCELLANEOUS PRIVATE LANDS LEASED TO FOREST INDUSTRY.

TABLE 3. --AREA OF COMMERCIAL FOREST LAND, BY FOREST-TYPE GROUP AND COUNTY, 1980

COUNTY	ALL TYPE GROUPS	FOREST-TYPE GROUP							MAPLE-BEECH-BIRCH
		WHITE PINE-HEMLOCK	SPRUCE-FIR	LONGLEAF-SLASH	LOBLOLLY-SHORTLEAF	OAK-PINE	OAK-HICKORY	OAK-GUM-CYPRESS	
						ACRES			
BREVARD	119,334	--	--	48,982	9,672	--	11,696	48,984	--
CITRUS	236,229	--	--	51,132	5,486	42,413	79,472	49,008	8,718
DE SOTO	51,980	--	--	10,216	--	2,554	12,805	26,405	--
HARDEE	86,492	--	--	16,331	--	8,166	4,834	57,161	--
HERNANDO	179,228	--	--	30,898	19,033	26,292	78,986	24,019	--
HIGHLANDS	95,709	--	--	28,473	--	7,986	10,486	48,764	--
HILLSBOROUGH	134,226	--	--	17,010	5,102	16,080	21,442	74,592	--
INDIAN RIVER	36,925	--	--	15,429	--	8,991	5,994	6,511	--
LAKE	263,130	--	--	63,048	39,163	33,368	25,673	94,178	7,700
MANATEE	55,501	--	--	9,235	6,158	3,078	9,236	27,794	--
ORANGE	40,534	--	--	12,415	--	--	--	25,016	3,103
OSCEOLA	179,487	--	--	44,533	24,536	6,134	15,335	88,949	--
PASCO	193,644	--	--	34,320	5,279	10,559	21,120	122,366	--
PINELLAS	163,497	--	--	28,574	--	14,177	43,258	77,488	--
POLK	23,061	--	--	9,568	--	8,996	--	4,497	--
ST. LUCIE	254,021	--	--	51,095	2,885	20,188	32,847	141,238	5,768
SARASOTA	51,504	--	--	27,219	3,016	3,016	--	18,253	--
SEMINOLE	55,277	--	--	20,714	--	2,301	2,301	29,961	--
SUMTER	89,037	--	--	17,129	--	19,802	19,801	32,305	--
	164,859	--	--	37,992	12,003	12,922	34,351	65,361	2,230
TOTAL	2,473,675	--	--	574,313	132,333	247,023	429,637	1,062,850	27,519

¹ INCLUDES 99,813 ACRES OF PALM AND OTHER TROPICAL FOREST TYPES.

TABLE 4. --AREA OF COMMERCIAL FOREST LAND, BY STAND-SIZE CLASS AND COUNTY, 1980

COUNTY	ALL STANDS	STAND-SIZE CLASS			NONSTOCKED AREAS
		SAWTIMBER	POLETIMBER	SAPLING-SEEDLING	
- - - - - ACRES - - - - -					
BREVARD	119,334	37,451	21,990	27,386	32,507
CITRUS	236,229	68,630	30,027	61,542	76,030
DE SOTO	51,980	26,405	—	7,663	17,912
HARDEE	86,492	57,160	4,083	12,325	12,924
HERNANDO	179,228	47,213	48,488	39,662	43,865
HIGHLANDS	95,709	39,285	16,979	22,466	16,979
HILLSBOROUGH	134,226	59,590	26,393	32,162	16,081
INDIAN RIVER	36,925	14,985	6,439	5,994	9,507
LAKE	263,130	112,817	43,258	58,277	48,778
MANATEE	55,501	24,629	6,245	12,314	12,313
OKEECHOBEE	40,534	25,017	6,207	6,207	3,103
ORANGE	179,487	58,477	52,679	37,659	30,672
OSCEOLA	193,644	90,373	47,517	34,634	21,120
PASCO	163,497	70,763	37,186	12,291	43,257
PINELLAS	23,061	5,070	8,995	4,498	4,498
POLK	254,021	105,889	66,336	47,187	34,609
ST. LUCIE	51,504	21,270	12,063	6,108	12,063
SARASOTA	55,277	13,809	11,507	11,508	18,453
SEMINOLE	89,037	42,589	12,503	22,630	11,315
SUMTER	164,859	85,813	25,595	22,738	30,713
TOTAL	2,473,675	1,007,235	484,490	485,251	496,699

TABLE 5. --AREA OF COMMERCIAL FOREST LAND, BY SITE CLASS AND COUNTY, 1980

COUNTY	ALL CLASSES	SITE CLASS				
		1	2	3	4	5
-- ACRES --						
BREVARD	119,334	--	--	4,836	58,205	56,293
CITRUS	236,229	--	--	10,609	93,532	132,088
DE SOTO	51,980	--	--	--	26,406	25,574
HARDEE	86,492	--	--	8,165	45,664	32,663
HERNANDO	179,228	2,719	--	13,371	95,252	67,886
HIGHLANDS	95,709	--	--	--	41,785	53,924
HILLSBOROUGH	134,226	--	2,680	2,680	79,692	49,174
INDIAN RIVER	36,925	--	--	2,996	20,978	12,951
LAKE	263,130	--	2,568	25,668	155,775	79,119
MANATEE	55,501	--	--	--	24,629	30,872
OKEECHOBEE	40,534	--	--	--	28,119	12,415
ORANGE	179,487	--	--	854	95,624	83,009
OSCEOLA	193,644	--	5,280	5,280	106,526	76,558
PASCO	163,497	--	--	22,162	88,899	52,436
PINELLAS	23,061	--	--	--	13,493	9,568
POLK	254,021	--	--	--	160,608	93,413
ST. LUCIE	51,504	--	--	3,016	30,393	18,095
SARASOTA	55,277	--	--	--	27,619	27,658
SEMINOLE	89,037	--	--	5,658	60,749	22,630
SUMTER	164,859	--	--	14,695	134,159	16,005
TOTAL	2,473,675	2,719	10,528	119,990	1,388,107	952,331

TABLE 6. --AREA OF COMMERCIAL FOREST LAND, BY STOCKING CLASSES OF GROWING STOCK TREES, BY COUNTY, 1980

COUNTY	ALL CLASSES	STOCKING PERCENTAGE ¹				
		OVER 130	100-130	60-99	16.7-59	LESS THAN 16.7
- - - - - ACRES - - - - -						
BREVARD	119,334	4,835	22,941	30,036	29,015	32,507
CITRUS	236,229	5,485	20,323	31,076	103,315	76,030
DE SOTO	51,980	--	3,286	130	30,652	17,912
HARDEE	86,492	--	8,166	32,739	32,663	12,924
HERNANDO	179,228	2,719	13,371	56,645	62,628	43,865
HIGHLANDS	95,709	2,500	20,972	23,443	31,815	16,979
HILLSBOROUGH	134,226	23,970	13,142	34,691	46,342	16,081
INDIAN RIVER	36,925	2,997	2,997	3,443	17,981	9,507
LAKE	263,130	5,415	58,299	78,824	71,814	48,778
MANATEE	55,501	--	3,079	9,237	30,872	12,313
OKEECHOBEE	40,534	3,104	12,415	12,601	9,311	3,103
ORANGE	179,487	9,201	39,872	39,973	59,769	30,672
OSCEOLA	193,644	29,037	47,515	40,219	55,753	21,120
PASCO	163,497	11,946	40,985	40,839	26,470	43,257
PINELLAS	23,061	--	4,498	8,995	5,070	4,498
POLK	254,021	25,545	54,059	61,556	78,252	34,609
ST. LUCIE	51,504	--	3,092	12,064	24,285	12,063
SARASOTA	55,277	--	--	11,507	25,317	18,453
SEMINOLE	89,037	--	9,673	25,459	42,590	11,315
SUMTER	164,859	22,450	27,019	37,403	47,274	30,713
TOTAL	2,473,675	149,204	405,704	590,880	831,188	496,699

¹ SEE STOCKING STANDARDS ON PAGE 12.

TABLE 7. VOLUME OF SAMPLING AND DEPOSIT OF SPECIES GROUPS AND COUNTRY, 1980

'FACTORS FOR CONVERTING TO CORDS ARE SHOWN ON PAGE 12.

TABLE 8. --NET ANNUAL GROWTH OF SAWTIMBER AND GROWING STOCK ON COMMERCIAL FOREST LAND, BY SPECIES GROUP AND COUNTY, 1979

COUNTY	SAWTIMBER				GROWING STOCK				THOUSAND CUBIC FEET	SOFT HARDWOOD	HARD HARDWOOD
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD			
BREVARD	17,152	11,632	1,863	1,943	1,714	6,459	5,349	255	466	389	
CITRUS	20,586	9,771	5,318	2,207	3,290	5,926	3,625	939	547	815	
DE SOTO	5,107	1,560	1,258	1,634	3,655	5,920	3,220	123	426	151	
HARDEE	16,866	9,626	3,206	1,006	7,099	3,386	1,552	632	333	869	
HERNANDO	26,397	12,125	1,115	6,058	7,099	5,418	2,393	168	1,119	1,432	
HIGHLANDS	16,676	8,024	4,543	2,936	1,273	4,205	1,942	712	1,119	1,432	
HILLSBOROUGH	28,123	7,669	12,453	2,977	5,204	5,351	1,436	2,117	887	911	
INDIAN RIVER	6,127	4,100	1,793	--	3,407	1,272	1,945	292	2	33	
LAKE	43,429	26,482	6,199	7,341	3,407	12,070	6,827	1,626	2,682	935	
MANATEE	4,335	2,214	--	1,596	525	801	319	--	365	117	
OKEECHOBEE	10,140	3,586	2,905	3,436	213	2,978	1,863	424	634	57	
ORANGE	26,312	10,778	5,974	6,420	2,140	7,083	3,114	1,777	1,853	339	
OSCEOLA	32,719	10,740	15,560	4,603	1,816	8,552	2,001	4,023	1,868	660	
PASCO	29,666	10,118	9,209	5,244	5,095	6,935	2,186	2,004	1,429	1,316	
PINELLAS	4,373	3,006	1,219	148	--	662	484	144	34	--	
POLK	44,199	15,120	15,191	8,891	4,997	11,604	3,223	3,844	3,763	774	
ST. LUCIE	4,237	3,782	280	--	175	1,286	1,046	39	--	201	
SARASOTA	4,053	3,174	--	365	514	1,349	1,122	--	134	93	
SEMINOLE	12,258	7,775	141	2,244	2,098	2,172	1,157	14	454	547	
SUMTER	29,023	6,414	9,049	6,363	7,197	7,890	2,903	1,786	1,359	1,842	
TOTAL	381,778	167,696	98,276	65,132	50,674	96,319	43,707	20,919	19,789	11,904	

TABLE 10. --AREA OF COMMERCIAL FOREST LAND, BY FOREST TYPE AND OWNERSHIP CLASS, 1980

FOREST TYPE	ALL OWNERSHIPS	OWNERSHIP CLASS				
		NATIONAL FOREST	OTHER PUBLIC	FOREST INDUSTRY	FARMER	MISC. PRIVATE
----- ACRES -----						
SOFTWOOD TYPES:						
WHITE PINE-HEMLOCK	--	--	--	--	--	--
SPRUCE-FIR	--	--	--	--	--	--
LONGLEAF PINE	174,196	12,820	28,014	--	30,734	102,628
SLASH PINE	400,117	10,256	76,547	16,324	61,899	235,091
LOBLOLLY PINE	2,719	--	--	--	2,719	--
SHORTLEAF PINE	--	--	--	--	--	--
VIRGINIA PINE	--	--	--	--	--	--
SAND PINE	89,112	17,949	2,422	318	3,067	65,356
EASTERN REDCEDAR	--	--	--	--	--	--
POND PINE	40,502	2,564	356	--	3,067	34,515
SPRUCE PINE	--	--	--	--	--	--
PITCH PINE	--	--	--	--	--	--
TABLE MOUNTAIN PINE	--	--	--	--	--	--
TOTAL	706,646	43,589	107,339	16,642	101,486	437,590
HARDWOOD TYPES:						
OAK-PINE	247,023	10,256	34,250	--	33,180	169,337
OAK-HICKORY	151,953	--	15,137	3,646	32,797	100,373
CHESTNUT OAK	--	--	--	--	--	--
SOUTHERN SCRUB OAK	277,684	5,130	18,104	3,646	24,946	225,858
OAK-GUM-CYPRESS ¹	1,062,850	2,565	106,239	18,113	212,560	723,373
ELM-ASH-COTTONWOOD	27,519	2,564	5,463	--	3,103	16,389
MAPLE-BEECH-BIRCH	--	--	--	--	--	--
TOTAL	1,767,029	20,515	179,193	25,405	306,586	1,235,330
ALL TYPES	2,473,675	64,104	286,532	42,047	408,072	1,672,920

¹ INCLUDES 99,813 ACRES OF PALM AND OTHER TROPICAL FOREST TYPES.

TABLE 11. --AREA OF COMMERCIAL FOREST LAND, BY OWNERSHIP AND STOCKING CLASSES OF GROWING-STOCK TREES, 1980

OWNERSHIP CLASSES	ALL CLASSES	STOCKING PERCENTAGE ¹				
		OVER 130	100-130	60-99	16.7-59	LESS THAN 16.7
ACRES						
NATIONAL FOREST	64,104	--	5,129	25,640	23,077	10,258
OTHER PUBLIC	286,532	25,805	51,751	70,179	86,890	51,907
FOREST INDUSTRY	42,047	5,434	10,892	12,679	3,964	9,078
FARMER	408,072	19,337	77,338	113,391	114,833	83,173
MISC. PRIVATE	1,672,920	98,628	260,594	368,991	602,424	342,283
ALL OWNERSHIPS	2,473,675	149,204	405,704	590,880	831,188	496,699

¹ SEE STOCKING STANDARDS ON PAGE 12.

TABLE 12. -- VOLUME OF TIMBER ON COMMERCIAL FOREST LAND, BY CLASS AND SPECIES GROUP, 1980

CLASS OF TIMBER	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
- - - - - THOUSAND CUBIC FEET - - - - -					
SAWTIMBER TREES:					
SAW-LOG PORTION	1,425,647	386,162	464,391	307,540	267,554
UPPER-STEM PORTION	135,000	31,310	37,653	35,314	30,723
TOTAL	1,560,647	417,472	502,044	342,854	298,277
POLETIMBER TREES	718,509	143,649	263,369	204,349	107,142
ALL GROWING-STOCK TREES	2,279,156	561,121	765,413	547,203	405,419
ROUGH TREES:					
SAWTIMBER-SIZE TREES	238,039	3,348	4,545	38,938	191,208
POLETIMBER-SIZE TREES	186,175	2,010	7,617	49,008	127,540
TOTAL	424,214	5,358	12,162	87,946	318,748
ROTTEN TREES:					
SAWTIMBER-SIZE TREES	27,051	--	1,813	4,840	20,398
POLETIMBER-SIZE TREES	2,887	--	202	902	1,783
TOTAL	29,938	--	2,015	5,742	22,181
SALVABLE DEAD TREES:					
SAWTIMBER-SIZE TREES	6,048	4,099	501	867	581
POLETIMBER-SIZE TREES	3,255	1,963	572	533	187
TOTAL	9,303	6,062	1,073	1,400	768
TOTAL, ALL TIMBER	2,742,611	572,541	780,663	642,291	747,116

TABLE 13. --NUMBER OF GROWING-STOCK TREES ON COMMERCIAL FOREST LAND, BY SPECIES AND DIAMETER CLASS, 1980

SPECIES	ALL CLASSES	DIAMETER CLASS (INCHES AT BREAST HEIGHT)										29.0 AND LARGER
		5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9		
THOUSAND TREES												
SOFTWOOD:												
LONGLEAF PINE	12,732	2,493	2,825	3,215	2,115	1,151	708	168	33	24	--	
SLASH PINE	47,169	22,605	11,296	6,475	3,321	1,852	1,067	309	169	75	--	
SHORTLEAF PINE	--	--	--	--	--	--	--	--	--	--	--	
LOBLOLLY PINE	1,117	329	253	212	112	162	12	23	8	6	--	
POND PINE	4,297	2,115	850	507	416	115	99	81	47	7	--	
VIRGINIA PINE	--	--	--	--	--	--	--	--	--	--	--	
PITCH PINE	--	--	--	--	--	--	--	--	--	--	--	
TABLE MOUNTAIN PINE	--	--	--	--	--	--	--	--	--	--	--	
SPRUCE PINE	--	--	--	--	--	--	--	--	--	--	--	
SAND PINE	5,394	2,057	1,014	1,376	561	270	92	24	--	--	--	
EASTERN WHITE PINE	--	--	--	--	--	--	--	--	--	--	--	
EASTERN HEMLOCK	--	--	--	--	--	--	--	--	--	--	--	
SPRUCE AND FIR	--	--	--	--	--	--	--	--	--	--	--	
BALDCYPRESS	17,102	4,797	4,025	3,079	1,780	1,534	865	456	175	329	62	
POND CYPRESS	78,395	33,849	21,921	13,913	5,320	2,167	800	216	126	126	4	
CEDARS	853	400	211	35	116	24	30	37	--	--	--	
TOTAL SOFTWOODS	167,059	68,705	42,395	28,812	13,741	7,275	3,673	1,314	511	567	66	
HARDWOOD:												
SELECT WHITE OAKS	15	--	--	--	--	--	15	--	--	5	--	
SELECT RED OAKS	15	--	--	--	--	--	--	--	--	--	--	
CHESTNUT OAK	--	--	--	--	--	--	--	--	--	--	--	
OTHER WHITE OAKS	3,821	1,025	554	340	219	370	273	254	207	508	171	
OTHER RED OAKS	12,356	4,596	2,365	1,893	1,411	625	469	398	178	353	68	
HICKORY	1,398	130	614	170	178	109	113	59	18	--	--	
YELLOW BIRCH	--	--	--	--	--	--	--	--	--	--	--	
HARD MAPLE	24	--	--	--	24	--	--	--	--	--	--	
SOFT MAPLE	13,956	4,324	3,062	2,502	1,841	925	718	252	139	184	9	
BEECH	--	--	--	--	--	--	--	--	--	--	--	
SWEETGUM	6,693	1,568	2,018	1,222	917	471	177	155	126	33	6	
TUPELO AND BLACKGUM	14,183	5,010	3,193	2,287	1,759	791	491	262	204	173	13	
ASH	13,251	5,786	3,299	1,603	1,025	825	366	237	72	30	8	
COTTONWOOD	--	--	--	--	--	--	--	--	--	--	--	
BASSWOOD	107	--	--	36	24	21	15	11	--	--	--	
YELLOW-POPLAR	--	--	--	--	--	--	--	--	--	--	--	
BAY AND MAGNOLIA	17,383	9,591	3,285	2,013	1,053	738	363	172	93	60	15	
BLACK CHERRY	17	--	--	--	--	--	17	--	--	--	--	
BLACK WALNUT	52	--	52	--	--	--	--	--	--	--	--	
SYCAMORE	--	--	--	--	--	--	--	--	--	--	--	
BLACK LOCUST	--	--	--	--	--	--	--	--	--	--	--	
ELM	2,193	770	601	193	172	168	121	82	49	37	--	
OTHER EASTERN HARDWOODS	1,074	261	519	193	78	--	--	23	--	--	--	
TOTAL HARDWOODS	86,528	33,061	19,562	12,452	8,701	5,043	3,138	1,905	1,086	1,290	290	
ALL SPECIES	253,587	101,766	61,957	41,264	22,442	12,318	6,811	3,219	1,597	1,857	356	

TABLE 14. *Volume of Lumber Produced by Species at Forests in the Pacific Northwest, 1960-1969*

SPECIES	Diameter Class (inches at breast height)										
	ALL CLASSES	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0 AND LARGER
SOFTWOOD:											
LONGLEAF PINE	148,797	5,838	14,384	30,334	38,867	34,447	1,634	1,737	1,617		
SLASH PINE	327,121	43,174	54,881	73,863	44,142	56,147	1,114	8,381	3,908		
SHORTLEAF PINE											
LOBLOLLY PINE	12,993	923	1,104	1,914	4,350	330	1,034	510	738		
POND PINE	30,360	3,857	1,237	4,716	2,557	3,386	3,549	2,560	571		
VIRGINIA PINE											
PITCH PINE											
TABLE MOUNTAIN PINE											
SPRUCE PINE	47,208	5,802	5,416	15,154	6,630	3,207	1,083				
SAND PINE											
EASTERN WHITE PINE											
EASTERN HEMLOCK											
SPRUCE AND FIR											
BALD CYPRESS	233,769	14,644	26,211	33,304	37,251	28,964	19,177	9,650	24,493	9,178	
POND CYPRESS	538,229	99,371	128,649	136,975	46,839	23,069	7,769	3,768	7,294	449	
CEDARS	7,592	956	1,357	291	477	893	1,567				
TOTAL SOFTWOODS	1,346,069	181,903	234,944	285,940	171,668	119,452	54,200	26,627	38,621	9,627	
HARDWOOD:											
SELECT WHITE OAKS	562					562				657	
SELECT RED OAKS	657										
CHESTNUT OAK											
OTHER WHITE OAKS	291,120	13,908	13,660	17,429	19,629	30,102	26,552	25,071	71,051	52,595	
OTHER RED OAKS	209,939	15,978	17,653	24,206	20,323	17,668	18,319	17,320	38,660	13,134	
HICKORY	20,999	208	2,796	2,041	3,804	3,761	3,161	1,611	892		
YELLOW BIRCH											
HARD MAPLE	431										
SOFT MAPLE	207,433	17,160	35,846	30,483	30,057	27,893	12,596	10,048	16,948	1,696	
BEECH											
SWEETGUM	88,439	4,208	11,857	14,029	11,759	7,099	8,342	7,800	3,482	1,546	
TUPELO AND BLACKGUM	160,607	16,003	20,695	25,130	18,898	14,791	10,521	11,802	13,589	1,582	
ASH	155,351	24,003	39,331	34,432	22,520	16,270	10,295	4,594	2,528	827	
COTTONWOOD											
BASSWOOD	2,497			828	404	466	553				
YELLOW POPLAR											
BAY AND MAGNOLIA	139,855	28,531	23,711	21,573	16,823	12,464	8,170	5,171	4,082	1,820	
BLACK CHERRY	182	363	181			377					
BLACK WALNUT											
SYCAMORE											
BLACK LOCUST	21,514	1,609	6,631	3,379	5,730	5,860	3,449	3,007	3,144		
ELM	26,333	18,061	23,763	14,029	4,087	2,107	1,999	390			
OTHER EASTERN HARDWOODS											
TOTAL HARDWOODS	1,387,739	140,037	173,128	177,559	154,934	139,420	103,957	86,814	155,033	73,200	
ALL SPECIES	2,733,308	321,940	408,072	463,499	325,702	258,872	158,157	113,441	193,654	82,827	

TABLE 15. -- VOLUME OF GROWING STOCK ON COMMERCIAL FOREST LAND, BY SPECIES AND D. AMETER CLASS, 1980

SPECIES	ALL CLASSES	DIAMETER CLASS (INCHES AT BREAST HEIGHT)										29.0 AND LARGER
		5.0- 6.9	7.0- 8.9	9.0- 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 20.9	21.0- 28.9		
SOFTWOOD:												
LONGLEAF PINE	148,175	5,658	13,070	30,696	35,697	28,869	23,247	7,534	1,787	1,617	--	
SLASH PINE	326,093	49,970	55,461	67,663	52,665	44,533	36,056	12,485	8,352	3,908	--	
SHORTLEAF PINE	--	--	--	--	--	--	--	--	--	--	--	
LOBLOLLY PINE	12,993	923	1,104	1,914	1,888	4,250	630	1,035	510	738	--	
POND PINE	30,127	3,624	3,237	4,716	5,927	2,557	3,386	3,549	2,560	571	--	
VIRGINIA PINE	--	--	--	--	--	--	--	--	--	--	--	
PITCH PINE	--	--	--	--	--	--	--	--	--	--	--	
TABLE MOUNTAIN PINE	--	--	--	--	--	--	--	--	--	--	--	
SPRUCE PINE	--	--	--	--	--	--	--	--	--	--	--	
SAND PINE	43,733	5,415	5,187	13,351	9,245	6,630	2,822	1,083	--	--	--	
EASTERN WHITE PINE	--	--	--	--	--	--	--	--	--	--	--	
EASTERN HEMLOCK	--	--	--	--	--	--	--	--	--	--	--	
SPRUCE AND FIR	--	--	--	--	--	--	--	--	--	--	--	
BALDCYPRESS	232,054	14,644	25,480	33,304	30,897	37,251	28,964	19,177	9,650	23,605	9,082	
POND CYPRESS	526,218	94,146	127,237	135,255	81,145	46,236	23,069	7,769	3,768	7,195	398	
CEDARS	7,141	846	1,016	291	2,051	477	893	1,567	--	--	--	
TOTAL SOFTWOODS	1,326,534	175,226	231,792	282,190	219,515	170,803	119,067	54,200	26,627	37,634	9,480	
HARDWOOD:												
SELECT WHITE OAKS	562	--	--	--	--	--	562	--	--	280	--	
SELECT RED OAKS	280	--	--	--	--	--	--	--	--	--	--	
CHESTNUT OAK	--	--	--	--	--	--	--	--	--	--	--	
OTHER WHITE OAKS	112,707	1,860	2,521	2,928	3,316	7,405	8,539	9,639	10,713	33,734	32,052	
OTHER RED OAKS	147,818	10,704	12,321	17,713	20,766	13,402	14,102	14,784	9,001	25,957	9,068	
HICKORY	18,977	208	2,796	1,422	2,725	3,042	3,761	3,161	1,277	585	--	
YELLOW BIRCH	--	--	--	--	--	--	--	--	--	--	--	
HARD MAPLE	431	--	--	--	431	--	--	--	--	--	--	
SOFT MAPLE	161,038	10,638	17,852	24,479	30,124	20,921	23,350	10,584	7,584	14,449	1,057	
BELCH	--	--	--	--	--	--	--	--	--	--	--	
SWEETGUM	83,581	3,994	11,184	12,900	16,527	11,759	7,099	7,696	7,800	3,076	1,546	
TUPELO AND BLACKGUM	149,693	13,203	18,720	13,026	25,390	18,009	14,791	10,158	10,812	13,074	1,582	
ASH	171,269	14,156	19,025	18,535	17,727	20,390	13,689	9,818	4,594	2,528	827	
COTTONWOOD	--	--	--	--	--	--	--	--	--	--	--	
BASSWOOD	2,293	--	--	434	434	404	466	553	--	--	--	
YELLOW-POPLAR	--	--	--	--	--	--	--	--	--	--	--	
BAY AND MAGNOLIA	119,640	23,414	18,473	18,252	15,158	15,543	11,654	6,639	4,772	3,505	1,820	
BLACK CHERRY	377	--	--	--	--	--	--	--	--	--	--	
BLACK WALNUT	182	--	182	--	--	--	--	--	--	--	--	
SYCAMORE	--	--	--	--	--	--	--	--	--	--	--	
BLACK LOCUST	--	--	--	--	--	--	--	--	--	--	--	
ELM	24,942	1,302	3,235	1,067	1,547	3,780	4,421	3,449	3,007	3,141	--	
OTHER EASTERN HARDWOODS	6,848	536	2,237	1,879	1,547	--	--	--	--	--	--	
TOTAL HARDWOOD	950,617	74,410	108,541	123,035	134,325	114,655	102,818	74,444	64,645	100,417	47,952	
ALL SPECIES	2,277,151	249,636	340,333	405,225	353,840	285,458	221,885	128,644	91,272	137,966	57,432	

TABLE 17. - NET ANNUAL GROWTH AND REMOVALS OF GROWING STOCK ON COMMERCIAL FOREST LAND, BY SPECIES, 1979

SPECIES	NET ANNUAL GROWTH	ANNUAL TIMBER REMOVALS
- - THOUSAND CUBIC FEET - -		
SOFTWOOD:		
YELLOW PINES	43,707	27,364
EASTERN WHITE PINE	-	-
SPRUCE AND FIR	-	-
CYPRESS	20,647	8,388
OTHER EASTERN SOFTWOODS	272	165
TOTAL SOFTWOODS	64,626	35,917
HARDWOOD:		
SELECT WHITE AND RED OAKS	20	126
OTHER WHITE AND RED OAKS	7,930	2,285
HICKORY	530	269
YELLOW BIRCH	-	-
HARD MAPLE	8	162
SWEETGUM	1,906	1,811
ASH, WALNUT, AND BLACK CHERRY	3,123	1,292
YELLOW-POPLAR	-	-
TUPELO AND BLACKGUM	3,395	718
BAY AND MAGNOLIA	7,158	1,617
OTHER EASTERN HARDWOODS	7,623	1,362
TOTAL HARDWOODS	31,693	9,642
ALL SPECIES	96,319	45,559

TABLE 18. - NET ANNUAL GROWTH AND REMOVALS OF SAWTIMBER ON COMMERCIAL FOREST LAND, BY SPECIES, 1979

SPECIES	NET ANNUAL GROWTH	ANNUAL TIMBER REMOVALS
- - - THOUSAND BOARD FEET - -		
SOFTWOOD:		
YELLOW PINES	167,696	110,671
EASTERN WHITE PINE	-	-
SPRUCE AND FIR	-	-
CYPRESS	95,835	35,003
OTHER EASTERN SOFTWOODS	2,441	788
TOTAL SOFTWOODS	265,972	146,462
HARDWOOD:		
SELECT WHITE AND RED OAKS	144	698
OTHER WHITE AND RED OAKS	37,160	8,188
HICKORY	2,266	1,143
YELLOW BIRCH	-	-
HARD MAPLE	16	292
SWEETGUM	7,747	6,586
ASH, WALNUT, AND BLACK CHERRY	10,985	3,335
YELLOW-POPLAR	-	-
TUPELO AND BLACKGUM	14,133	2,596
BAY AND MAGNOLIA	12,618	2,193
OTHER EASTERN HARDWOODS	30,737	5,488
TOTAL HARDWOODS	115,806	30,519
ALL SPECIES	381,778	176,981

TABLE 19. --MORTALITY OF GROWING STOCK AND SAWTIMBER ON COMMERCIAL
FOREST LAND, BY SPECIES, 1979

SPECIES	GROWING STOCK	SAWTIMBER
	THOUSAND CUBIC FEET	THOUSAND BOARD FEET
SOFTWOOD:		
YELLOW PINES	10,580	36,978
EASTERN WHITE PINE	--	--
SPRUCE AND FIR	--	--
CYPRESS	1,772	3,751
OTHER EASTERN SOFTWOODS	101	697
TOTAL SOFTWOODS	12,453	41,426
HARDWOOD:		
SELECT WHITE AND RED OAKS	103	382
OTHER WHITE AND RED OAKS	2,315	8,791
HICKORY	255	1,385
YELLOW BIRCH	--	--
HARD MAPLE	--	--
SWEETGUM	631	2,871
ASH, WALNUT, AND BLACK CHERRY	1,263	4,631
YELLOW-POPLAR	--	--
TUPELO AND BLACKGUM	2,309	7,669
BAY AND MAGNOLIA	1,700	3,869
OTHER EASTERN HARDWOODS	2,535	6,008
TOTAL HARDWOODS	11,111	35,606
ALL SPECIES	23,564	77,032

TABLE 20. -- VOLUME OF ALL LIVE TREES AND GROWING STOCK ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1980

OWNERSHIP CLASS	ALL LIVE TREES				GROWING STOCK				
	ALL SPECIES	PINE	OTHER SOFTWOOD	SCFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	HARD HARDWOOD
NATIONAL FOREST	32,398	20,353	95,767	3,680	8,365	24,965	23,353	95,112	2,184
OTHER PUBLIC	314,792	5,061	22,677	58,961	85,003	271,382	78,499	53,606	48,165
FOREST INDUSTRY	50,779	9,068	7,404	7,404	11,630	45,011	9,068	6,135	7,131
FARMER	518,982	95,526	155,261	131,321	136,874	437,248	95,040	112,121	77,657
MISCELLANEOUS PRIVATE	1,816,357	366,471	505,885	439,525	504,476	1,500,550	362,161	495,194	270,282
ALL OWNERSHIPS	2,733,308	566,479	779,590	640,891	746,348	2,279,156	561,121	765,413	405,419

TABLE 21. -- VOLUME OF SAWTIMBER ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1980

OWNERSHIP CLASS	SMALL SAWTIMBER ¹				LARGE SAWTIMBER ²				
	ALL SPECIES	PINE	OTHER SOFTWOOD	SCFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	HARD HARDWOOD
NATIONAL FOREST	53,823	51,292	165,096	2,531	37,368	34,706	28,019	101,272	2,766
OTHER PUBLIC	471,796	206,201	40,915	63,131	13,778	359,750	65,113	67,514	125,852
FOREST INDUSTRY	79,679	18,644	271,271	6,342	13,778	45,738	2,583	11,690	18,106
FARMER	693,416	261,600	840,281	198,892	51,693	706,894	115,850	177,967	292,703
MISCELLANEOUS PRIVATE	2,319,892	845,198	840,281	397,629	236,784	2,248,056	447,113	486,142	702,603
ALL OWNERSHIPS	3,618,606	1,382,935	1,317,563	578,485	339,623	3,395,144	658,677	874,959	1,142,030

¹ VOLUME OF SAWTIMBER TREES LESS THAN 15.0 INCHES AT D.B.H.
² VOLUME OF SAWTIMBER TREES 15.0 INCHES AND LARGER AT D.B.H.

TABLE 22. --NET ANNUAL GROWTH AND REMOVALS OF SAWTIMBER ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1979

OWNERSHIP CLASS	NET ANNUAL GROWTH					ANNUAL TIMBER REMOVALS				
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
NATIONAL FOREST	2,490	2,110		130	250	8,336	1,416		224	696
OTHER PUBLIC	13,018	7,135	2,524	1,695	1,664	8,553	2,820	3,755	1,361	617
FOREST INDUSTRY	1,638	739	548	173	178	7,273	1,958			114
FARMER	16,907	6,310	4,325	4,145	2,271	7,950	5,434	1,643	768	105
MISCELLANEOUS PRIVATE	62,266	27,413	13,622	13,646	7,585	26,448	17,536	3,155	3,091	2,666
ALL OWNERSHIPS	96,319	43,707	20,919	19,789	11,904	45,559	27,364	8,553	5,444	4,198

TABLE 23. --NET ANNUAL GROWTH AND REMOVALS OF SAWTIMBER ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1979

OWNERSHIP CLASS	NET ANNUAL GROWTH					ANNUAL TIMBER REMOVALS				
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
NATIONAL FOREST	5,162	4,571	12,768	346	245	9,375	6,210		1,206	1,959
OTHER PUBLIC	45,768	19,821	6,987	6,987	6,497	34,838	11,765	15,680	5,441	1,951
FOREST INDUSTRY	6,627	2,287	3,973	483	884	1,411	863			548
FARMER	71,065	28,210	13,643	13,905	8,907	33,899	25,880	6,490	1,119	410
MISCELLANEOUS PRIVATE	253,156	112,407	67,892	43,716	34,141	97,458	65,952	3,621	9,097	8,788
ALL OWNERSHIPS	381,778	167,696	98,776	65,132	50,674	176,981	110,671	35,791	16,863	13,656

TABLE 24. --AVERAGE NET VOLUME PER ACRE OF SAW-TIMBER, GROWING STOCK, AND OTHER FOREST TYPES, BY SPECIES GROUP, AND SPECIES, 1980

FOREST TYPE, SPECIES GROUP, AND CLASS OF MATERIAL	ALL OWNERSHIPS			OWNERSHIP CLASS					
	NATIONAL FOREST OTHER PUBLIC			FOREST INDUSTRY			FARMER		
	BOARD FEET	CUBIC FEET	HAIR FEET	BOARD FEET	CUBIC FEET	HAIR FEET	BOARD FEET	CUBIC FEET	HAIR FEET
PINE TYPES:									
GROWING STOCK:									
SOFTWOOD	1,942	572	924	295	1,608	461	1,557	527	763
HARDWOOD	35	14	--	20	13	--	--	164	42
TOTAL	1,975	586	924	315	1,621	461	1,557	691	601
OTHER TIMBER:									
SOFTWOOD	--	5	--	--	--	1	--	--	5
HARDWOOD	--	26	--	78	--	6	--	--	33
TOTAL	--	31	--	78	--	8	--	--	38
OAK PINE TYPES:									
GROWING STOCK:									
SOFTWOOD	1,853	432	2,410	674	822	257	--	1,579	397
HARDWOOD	274	132	50	169	--	7	--	601	303
TOTAL	2,127	564	2,460	843	822	264	--	2,180	700
OTHER TIMBER:									
SOFTWOOD	--	4	--	--	--	8	--	--	8
HARDWOOD	--	147	--	178	--	109	--	--	123
TOTAL	--	151	--	178	--	117	--	--	131
UPLAND HARDWOOD TYPES:									
GROWING STOCK:									
SOFTWOOD	141	34	390	71	734	56	713	140	98
HARDWOOD	935	334	1,265	53	420	53	--	2,369	464
TOTAL	1,076	368	1,655	124	1,154	109	713	2,409	562
OTHER TIMBER:									
SOFTWOOD	--	1	--	--	--	--	--	--	--
HARDWOOD	--	271	--	--	--	393	--	--	385
TOTAL	--	272	--	--	--	393	--	--	385
BOTTOMLAND HARDWOOD TYPES:									
GROWING STOCK:									
SOFTWOOD	1,992	777	1,119	53	2,422	1,019	3,041	1,111	1,988
HARDWOOD	2,236	763	1,111	404	2,430	1,007	3,739	1,110	1,978
TOTAL	4,228	1,540	2,230	487	4,852	2,026	6,780	2,221	3,966
OTHER TIMBER:									
SOFTWOOD	--	14	--	452	--	7	--	--	12
HARDWOOD	--	142	--	452	--	249	--	--	246
TOTAL	--	156	--	452	--	256	--	--	258
ALL TYPES:									
GROWING STOCK:									
SOFTWOOD	1,941	536	2,414	71	1,722	555	1,845	793	1,400
HARDWOOD	1,441	385	1,441	53	922	334	1,269	331	611
TOTAL	3,382	921	3,855	124	2,644	889	3,114	1,124	2,011
OTHER TIMBER:									
SOFTWOOD	--	5	--	117	--	4	--	--	8
HARDWOOD	--	178	--	117	--	140	--	--	194
TOTAL	--	183	--	117	--	144	--	--	202
ALL TIMBER	3,382	1,104	3,855	241	2,766	1,048	3,114	1,268	2,213

*ROUGH AND ROTTEN TREES.

TABLE 2. LAND AREA, BY CLASS, MAJOR FOREST TYPE, AND SURVEY COMPLETION DATE, 1959, 1970, AND 1980

LAND USE CLASS	SURVEY COMPLETION DATE			CHANGE 1970-1980
	1959	1970	1980	
- ACRES -				
FOREST LAND:				
COMMERCIAL FOREST LAND:				
PINE AND OAK-PINE TYPES	1,223,000	1,058,992	953,669	-105,323
HARDWOOD TYPES	2,018,000	1,616,922	1,520,006	- 96,916
TOTAL	3,241,000	2,675,914	2,473,675	-202,239
NONCOMMERCIAL FOREST LAND:				
PRODUCTIVE-RESERVED	21,900	23,800	65,341	+ 41,541
UNPRODUCTIVE	111,100	98,837	67,286	- 31,551
TOTAL	133,000	122,637	132,627	+ 9,990
NONFOREST LAND:				
CROPLAND	1,201,800	1,283,251	1,239,604	- 43,647
PASTURE AND RANGE	2,976,900	3,781,899	3,869,187	+ 87,288
OTHER	2,346,800	2,058,135	2,201,637	+143,502
TOTAL	6,525,500	7,123,285	7,310,428	+187,143
ALL LAND ¹	9,899,500	9,921,836	9,916,730	- 5,106
EXCLUDES ALL WATER AREAS.				

TABLE 26. -- VOLUME OF SAWTIMBER, GROWING STOCK, AND ALL LIVE TIMBER ON COMMERCIAL FOREST LAND, BY SPECIES GROUP, DIAMETER CLASS, AND SURVEY COMPLETION DATE

SPECIES GROUP	YEAR	ALL CLASSES	DIAMETER CLASS (INCHES AT BREAST HEIGHT)									
			5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0 AND LARGER	
			SAWTIMBER (IN THOUSAND BOARD FEET)									
SOFTWOOD	1959	2,412,055	--	--	617,827	647,774	471,446	312,752	180,490	84,146	97,620	
	1970	3,222,172	--	--	770,883	859,403	687,948	436,023	218,474	106,178	143,263	
	1980	4,078,653	--	--	946,039	932,017	822,442	633,219	302,473	156,367	286,096	
HARDWOOD	1959	1,740,816	--	--	--	351,929	307,268	262,500	202,610	165,827	450,682	
	1970	2,262,275	--	--	--	368,944	406,017	352,131	296,908	216,087	622,188	
	1980	2,935,097	--	--	--	462,597	455,511	455,829	375,841	308,371	876,948	
GROWING STOCK (IN THOUSAND CUBIC FEET)												
SOFTWOOD	1959	892,191	137,180	198,665	184,316	152,561	97,912	58,810	32,340	14,330	16,077	
	1970	1,115,050	156,886	220,096	229,977	202,403	142,876	81,990	39,146	18,082	23,594	
	1980	1,326,534	175,226	231,792	282,190	219,515	170,803	119,067	54,200	26,627	47,114	
HARDWOOD	1959	625,565	65,393	81,191	87,171	105,242	77,339	59,215	41,758	32,050	76,206	
	1970	767,208	70,270	89,560	107,257	110,330	102,194	79,434	61,193	41,764	105,206	
	1980	952,622	79,915	108,541	123,035	138,325	114,655	102,818	77,454	59,595	148,284	
ALL LIVE TIMBER (IN THOUSAND CUBIC FEET)												
SOFTWOOD	1959	906,226	142,429	201,302	186,933	155,000	98,406	58,996	32,340	14,330	16,490	
	1970	1,131,970	162,889	223,013	233,235	205,641	143,596	82,245	39,146	18,082	24,123	
	1980	1,346,069	181,903	234,944	285,940	223,087	171,668	119,452	54,200	26,627	48,248	
HARDWOOD	1959	913,856	114,435	129,360	125,854	140,041	103,912	80,290	56,054	46,676	117,234	
	1970	1,117,275	122,967	142,695	154,861	146,813	137,304	107,703	82,124	60,853	161,955	
	1980	1,387,239	140,037	173,128	177,559	184,057	154,034	139,420	103,957	86,814	228,233	

TO PROVIDE A BASIS FOR VALID COMPARISONS, ADJUSTMENTS HAVE BEEN MADE TO ALLOW FOR DIFFERENCES IN VOLUME TABLES AND SAWTIMBER SPECIFICATIONS USED IN PREVIOUS SURVEYS.

Statistical Worksheet M

1991 Forest statistics for Central Florida, from 1970 to 1990, by county. Area: 10,000 sq. miles. Forest land: 1,000,000 acres. Forest volume: 100,000,000 cu. ft.

Since the fourth inventory of the forest resources of Central Florida in 1970, the area of commercial forest land has declined by 77,000 acres, or by 8 percent. Commercial forest now occupy 2.5 million acres, or 25 percent of the land area in the 7-county area. Softwood, industrial, private landowners control 84 percent of these forests. The ownership of softwood and hardwood growing stock increased by 19 and 24 percent, respectively. Softwood species make up 58 percent of the standing volume, and the most abundant softwood species are the longleaf, cypress, and slash pine. The most abundant hardwood species are the live oak, red oak, and white oak. The total annual growth of growing stock totaled 96 million cu. ft. per year. 111 percent more than annual timber removals.

KEYWORDS: Forest trends, commercial forest land, forest ownership, timber volume, timber growth, timber removals.

Statistical Worksheet M

1991 Forest statistics for Central Florida, from 1970 to 1990, by county. Area: 10,000 sq. miles. Forest land: 1,000,000 acres. Forest volume: 100,000,000 cu. ft.

Since the fourth inventory of the forest resources of Central Florida in 1970, the area of commercial forest land has declined by 77,000 acres, or by 8 percent. Commercial forest now occupy 2.5 million acres, or 25 percent of the land area in the 7-county area. Softwood, industrial, private landowners control 84 percent of these forests. The ownership of softwood and hardwood growing stock increased by 19 and 24 percent, respectively. Softwood species make up 58 percent of the standing volume, and the most abundant softwood species are the longleaf, cypress, and slash pine. The most abundant hardwood species are the live oak, red oak, and white oak. The total annual growth of growing stock totaled 96 million cu. ft. per year. 111 percent more than annual timber removals.

KEYWORDS: Forest trends, commercial forest land, forest ownership, timber volume, timber growth, timber removals.



The Forest Service, U.S. Department of Agriculture, is dedicated to the principle of multiple use management of the Nation's forest resources for sustained yields of wood, water, forage, wildlife, and recreation. Through forestry research, cooperation with the States and private forest owners, and management of the National Forests and National Grasslands, it strives—as directed by Congress—to provide increasingly greater service to a growing Nation.

USDA policy does not permit discrimination because of race, color, national origin, sex or religion. Any person who believes he or she has been discriminated against in any USDA-related activity should write immediately to the Secretary of Agriculture, Washington, D.C. 20250.

United States
Department of
Agriculture
Southeastern Forest
Experiment Station
Forest Service

Source Bulletin
F-56



Incidence and Impact of Damage to South Carolina's Timber, 1979



*Cover photo: Paul A. Moore,
Tenn. Conservation Dep., Nashville*

June 1981
Southeastern Forest Experiment Station
Asheville, North Carolina

INCIDENCE AND IMPACT OF DAMAGE TO SOUTH CAROLINA'S TIMBER, 1979

by

Robert L. Anderson,¹ Joe P. McClure,² William H. Hoffard,¹
and Noel D. Cost²

¹Supervisory Pathologist, Entomologist, Southeastern Area,
State and Private Forestry, Asheville, North Carolina.

²Resource Analysts, Southeastern Forest Experiment
Station, Asheville, North Carolina.

INTRODUCTION

During the fifth inventory of South Carolina's forests in 1977 and 1978, damage to trees on sample plots was noted. Where possible, a cause or damaging agent was specified. This Bulletin reports and interprets these observations.

Since plots are visited only once and at all times of year, it is only possible to keep records on agents that produce symptoms or signs in all seasons. On the basis of these "durable" symptoms and signs, the agents defined on pages 4-5 were recognized.

Prior to the field survey, people from the Southeastern Area, State and Private Forestry, Forest Insect and Disease Management, developed a handbook for identifying damage types. During the survey, they field-checked data collected by crews to ensure accuracy and consistency. It should be recognized, however, that the data reported here were not gathered by people with expertise in entomology or tree pathology. Rather, crew members are trained and experienced in forest inventory. They received training, specimen kits, and forms to help them identify types of damage.

South Carolina is the third Southeastern State to have a damage inventory. Agents selected for the survey were required to be (1) easily identifiable, (2) present year-round, and (3) present on trees at least 1 inch in diameter at breast height. Therefore, small trees with problems such as brown spot and trees of all sizes with damage such as defoliation (which is not apparent in winter) are not accounted for in this report.

Acres of forest types, timber removals, and mortality by species and size class are taken from the Resource Bulletin "South Carolina's Forests" (Knight 1979). The remaining data were analyzed by Forest Insect and Disease Management to develop the tables presented here.

Many damaging agents, such as insects and fusiform rust, are easy to identify; others, such as root rot and littleleaf disease, are sometimes difficult to recognize. Consequently, the data for easily recognizable and persistent damage types are very reliable, whereas the data for damage types that are difficult to recognize are probably underestimated.

SAMPLING PROCEDURE

The inventory employs a sampling procedure designed to provide reliable statistics primarily for the whole State, for large groups of counties, and for species with relatively large total volumes in the State. Accordingly, the errors associated with relatively minor species like cottonwood exceed those for such major species as loblolly pine. Procedures were as follows:

1. Initial estimates of forest and nonforest areas were based on the classification of 67,524 sample clusters systematically spaced on the latest aerial photographs available. A subsample of 6,466 of the 16-point clusters was ground-checked, and a linear regression was fitted to the data to determine the relationship between the photo and ground classification of the subsample. This procedure provides a means for adjusting the initial estimates of area for change in land use since date of photography and for photo misclassifications.

2. Estimates of timber volume and forest classifications were based on measurements recorded at 4,038 ground sample locations systematically distributed on forest land. A 10-point cluster of plots, measured with a basal-area factor of 37.5 square feet per acre, was established on an acre at each of these sample locations. Trees less than 5 inches d.b.h. were tallied on a portion of the fixed-radius plots around the point centers.

3. Equations prepared from detailed measurements collected on standing trees in South Carolina, and similar measurements taken throughout the Southeast, were used to compute the volume of individual tally trees. A mirror caliper and sectional aluminum poles were used to obtain the additional measurements on these standing trees required to construct volume equations.

4. Felled trees were measured at 93 active cutting operations. These data were pooled with similar measurements taken in other Southeastern States to supplement the standing-tree volume study and to generate utilization factors for product and species groups to be analyzed at the State level.

5. Estimates of growth, removals, and mortality were determined from remeasurement of 4,231 permanent sample plots which were established in the fourth survey.

COMPUTATIONS

1. All field data were sent to Asheville for editing and were punched into cards and stored for machine computing, sorting, and tabulation. Final estimates were based on statistical summaries of the data.

2. Tree data were categorized as follows: saplings, 1.0 to 4.9 inches d.b.h.; softwood poles, 5.0 to 8.9 inches d.b.h.; hardwood poles, 5.0 to 10.9 inches d.b.h.; softwood sawtimber, 9.0 inches and above; and hardwood sawtimber, 11.0 inches and above.

3. The symptoms that were used to identify the cause of damage to living trees on the sampled plots are presented on pages 4-5. The percent incidence and cull associated with each damage class were

estimated. Percentage of species volume and total volume loss attributable to all agents damaging a species were also estimated. Note that data on percent incidence and cull associated damage do not imply total tree loss. Only a part of the volume in associated cull would fail to qualify for some commercial use such as firewood. This poletimber volume loss was determined by multiplying the percent incidence by the total wood volume in a tree species. This figure, in turn, was multiplied by the percent cull associated with the damaging agent to obtain wood fiber loss. The sawtimber volume was calculated in the same manner but multiplied by 4.5 to convert to thousand board feet.

4. Quality loss was determined by taking the number of trees that were sufficiently large but did not qualify as sawtimber trees because of damage. The cubic-foot volume in the saw-log portion of these trees was computed. This volume is taken as the quality loss. Note, however, that the losses in quality in trees that were not damaged enough to be withdrawn from the sawtimber category are excluded.

5. Mortality could not be attributed to damaging agents because it was often impossible to determine the cause of death. In many cases, a tree tallied in the last survey 10 years ago was simply missing. It was possible, however, to determine volume loss to mortality for each tree species on each plot. By using total mortality by tree species, it was possible to arrive at a total volume loss for poles and sawtimber by tree species.

6. Economic impact was determined by multiplying the total wood fiber and quality loss for each tree species by the stumpage value per unit. These dollar estimates were taken from an average of all timber sales on National Forest land in South Carolina in 1979. The estimates were received by the State forest pest specialists and modified slightly.

INCIDENCE OF DAMAGING AGENTS

Detailed tables in this report show numbers of damaged trees and volumes of damaged timber by tree species. In examining these figures, some people may also be interested in the acreages in various forest types and stand-size classes. Table 1 provides these numbers.

Tables 2 and 3 show percentages of trees damaged by the agents recorded by size class and tree species. Overall, hardwoods had more damage than softwood, and saplings had more damage than poletimber or sawtimber. Among softwoods, slash pines were most frequently damaged. Black cherry, black walnut, black locust, and red oak seemed to

have the highest occurrence of damage among hardwoods. Significant damage for many of the major species is represented in pie charts (fig. 1). Tables 4 and 5 provide a detailed listing of damage by species and damaging agent.

For susceptible species of softwoods, fusiform rust was the most common damaging agent. Crews tallied insect damage on pines but found relatively little. Since the incidence data are for living trees only and southern pine beetle was at a low level during the survey, low occurrence was not surprising. However, during a southern pine beetle outbreak the occurrence would be markedly higher.

Fusiform rust was recorded only if the gall was on or within 12 inches of the main stem. If galls farther out on limbs had been recorded, occurrence of fusiform rust would have been higher. Annosus root rot, which occurs after thinning, was not abundant. With increased thinning in South Carolina, however, occurrence of this disease can be expected to increase. (In future surveys, root rot on all species will be recorded.) Littleleaf, which occurs on shortleaf pines over 20 years old and on clay soils, was less prevalent than expected. It was identified on less than 3 percent of living shortleaf pines. Incidence of cankers was low on most tree species. Black locust was an exception; over 30 percent of the sawtimber-size trees of this species had cankers.

Damaging branch stubs were rare on softwoods but fairly common on hardwoods with black cherry, beech, and black walnut having the highest occurrence. Most of this damage occurred on large, old trees. Top breakage also occurred infrequently on softwoods but was very common in hardwoods. Among softwoods, basal defects were common only on baldcypress and Atlantic white-cedar; 6 percent of the sawtimber trees of these species were affected. Basal defect was one of the most common damage types for hardwoods.

Fire damage was found in almost all species and age classes, but the percentage of trees affected was low. Fire damage was most often found on young trees. Animal damage was also found on all species, but very few trees were affected. More than 50 percent of the basswood sawtimber trees of this species were damaged by weather. Suppression and stagnation affected about 2 percent of the State's trees. Slash pine saplings, cottonwood saplings, sycamore poles, and chestnut oak saplings were most severely affected. The damage, as expected, was confined primarily to small, young trees. Logging and related damage was highest in spruce pine, beech, and black walnut, with damage concentrated in saplings and poletimber. Form damage was severe on both hardwoods and softwoods, but it was much more common on hardwoods. On both



Logging and related damage



Fire-caused damage



Other basal damage



Hardwood canker

hardwoods and softwoods, frequency of form damage decreased as tree size increased. Ironically, form damage incidence was worst in black walnut and black cherry—two species in which good form is especially important.

In reviewing the incidence, we see separate patterns for softwoods and hardwoods. Softwoods of all sizes are affected most often by form damage and fusiform rust. Weather and logging damage are also significant. Among hardwood saplings, form is clearly the most serious problem, with suppression, stagnation, and logging damage next in frequency. This trend continues into poletimber, with top breakage and basal defects beginning to show increased significance. Hardwood sawtimber is frequently damaged by basal defects, top breakage, branch stubs, and cankers. These damaging agents are typical of mature and overmature trees.

MORTALITY, ASSOCIATED CULL, AND QUALITY LOSS

Table 6 shows estimated volumes of mortality, cull, and quality loss for major species groups in South Carolina. Annual harvests are also shown to place the volume losses in perspective. The mortality figures (table 6) used in this report are the total for the resource. No discounting has been done for trees whose death represented no economic loss. The accumulated cull is that associated with the damage type and may not have been caused by the damaging agent. The quality loss occurs when a sawtimber tree associated with a damaging agent is dropped from the sawtimber classification.

Annual mortality amounts to about 6,334 million board feet of sawtimber and 60 million cubic feet of poletimber. Sixty-three percent of the sawtimber mortality loss and 74 percent of the poletimber mortality occur in softwoods. Sawtimber mortality is about 17 percent of annual removals, and poletimber is 69 percent (table 6).

Although mortality is heavier in softwoods, volume losses to cull are greater in hardwoods. The total cull of softwood sawtimber is equal to about only 4 percent of the softwood sawtimber mortality, while cull in hardwood sawtimber is about equal to the hardwood sawtimber mortality. It must be noted that the mortality figures are annual, whereas the cull is the total volume divided by 10. Distributing the cull losses over a 10-year period³ shows a total annual loss of 3,475,000 cubic feet for poles and 119,423,000 board feet for sawtimber.

³Distributing the loss over a 10-year period is arbitrary. The reader may wish to consider another method for converting total cull to annual cull.

The quality loss is reported when a tree associated with a particular damage shifts from the sawtimber to nonsawtimber category. Distributing the loss over a 10-year period yields a 255,000 board-foot annual loss for softwoods and a 3.4 million board-foot loss for hardwoods.

The greatest economic impact occurs in softwood sawtimber, for which the annual loss is \$25,557,775 (table 7). This figure is almost double that for hardwood sawtimber—\$14,740,812. In poletimber, the difference is even greater, with the \$786,562 softwood loss exceeding that of hardwood (\$96,756) by more than eight times. In all, 64 percent of all economic impact occurs in softwoods. About 98 percent of the total economic impact is in sawtimber-size trees.

PAST TREATMENT OR DISTURBANCE

In stands that have been significantly disturbed since the last survey, the cause of the disturbance and any needed corrective treatment are noted. Table 8 summarizes these observations. Only those disturbances classified as "damage types" are included. Other disturbances such as thinning are excluded.

Diseases head the list of damaging disturbances. Of the 141 sample stands with significant disease, 84 required no remedial treatment, 16 required salvage, 0 needed harvesting, 21 needed thinning, 6 needed cleaning, 6 needed to be converted, and 8 needed to be regenerated artificially (table 8). Wildfire caused the second most damage. The relative ranking of nine treatment or disturbance types is shown in table 8. Under treatment needed, wildfire and diseases required the greatest amount and largest variety of treatments.

DEFINITIONS

Damaging Agents and Their Symptoms

Insects.—All pines. Loose bark, insect galleries in inner bark, exit holes.

Fusiform rust.—Slash, loblolly, pitch, and pond pines. Spindle-shaped galls on stem or within 12 inches of stem, canker on stem with sunken rotten center encircled by callus ridge, witches' broom, orange fruiting structures in spring.

Annosus root rot.—Pines and redcedar. Diseased trees frequently occur in groups (centers) which usually contain dead or wind-thrown trees; diseased trees with thin, tufted crowns; wind-thrown trees exhibit stringy, white root rot; perennial shelflike or flat conks against base of trees in litter or under roots of wind-thrown trees; conks are rubbery with tan-to-brown upper surface and white pore-bearing undersurface.

Littleleaf disease.—Shortleaf pine. Affected trees occur in groups. Short yellow needles, reduced shoot growth on trees over 20 years old, large crops of undersized cones, usually occur on heavy soils of poor internal drainage.

Hardwood cankers.—All hardwoods. Dead sunken area on stem, frequently showing annual callus ridges.

Other diseases.—All species. Damage due to diseases other than those indicated. For example, eastern gall rust, pitch canker, and red heart on pines.

Branch stubs.—All species. Branch holes or stubs greater than 4 inches in diameter on stem.

Top breakage.—All species. Broken stem greater than 4 inches in diameter.

Other basal defects.—All species. Butt rot due to causes other than fire or logging damage (root rot, parent stump, frost seam, low stubs, butt bulge). Cause of cull is below breast height.

Fire.—All species. Fire scar usually at base of stem, widespread in stand, usually on uphill side of slope, charring or reburned stems.

Animal.—All species. Beaver, bear, bird, rodent, rabbit, etc.

Weather.—All species. Wind-thrown, lightning strikes, ice and snow, hail.

Suppression and stagnation.—All species. Overtopped tree with poor form.

Logging and related.—All species. Logging scar on stem, callus ridges within 1 to 2 years after wounding, scattered in stand, no charring, limb breakage, and/or stem scar near crown resulting from tree felling. Look for skid trails, stumps, etc.

Damage from turpentine.—All pines. Scars left during collection of gum. Naval stores.

Form (damaging).—All species. Deformed due to unknown causes.

Forest Survey Terms

Acceptable trees.—Growing-stock trees of commercial species that meet specified standards of size and quality, but not qualifying as desirable trees.

Accumulated volume loss.—Percentage of trees affected times the percent cull times the volume for the species.

Associated cull.—Percentage of affected trees containing cull associated with the indicated damaging agent.

Associated volume loss from sawtimber to pole-timber.—Volume in the saw-log portion of trees sufficiently large to qualify as sawtimber but unsatisfactory for sawtimber because of damaging agent.

Basal area.—The area in square feet of the cross section at breast height of a single tree or of all the trees in a stand, usually expressed as square feet of basal area per acre.

Commercial forest land.—Forest land producing or capable of producing crops of industrial wood and not withdrawn from timber utilization.

Commercial species.—Tree species presently or prospectively suitable for industrial wood products.

Desirable trees.—Growing-stock trees of commercial species having no serious defects in quality limiting present or prospective use for timber products, of relatively high vigor, and containing no pathogens that may result in death or serious deterioration before rotation age.

Diameter class.—A classification of trees based on diameter outside bark, measured at breast height (4½ feet above the ground). D.b.h. is the common abbreviation for "diameter at breast height." Two-inch-diameter classes are commonly used in Forest Survey, with the even inch the approximate midpoint for a class. For example, the 6-inch class includes trees 5.0 through 6.9 inches d.b.h., inclusive.

Growing-stock trees.—Live trees of commercial species qualifying as desirable or acceptable trees.

Incidence.—Percentage of susceptible trees affected by the agent.

Pole-timber trees.—Growing-stock trees of commercial species at least 5.0 inches d.b.h. but smaller than sawtimber size.

Saplings.—Live trees 1.0 to 5.0 inches in diameter at breast height.

Saw log.—A log meeting minimum standards of diameter, length, and defect, including logs at least 8 feet long, sound and straight, and with a minimum diameter inside bark for softwoods of 6 inches (8 inches for hardwoods).

Sawtimber trees.—Live trees of commercial species containing at least a 12-foot saw log, or two noncontiguous saw logs, each 8 feet or longer, and with at least one-third of the gross board-foot volume between the 1-foot stump and minimum saw-log top being sound. Softwoods must be at least 9.0 inches and hardwoods at least 11.0 inches in diameter at breast height.

Sawtimber volume.—Net volume of the saw-log portion of live sawtimber in board-foot International 1¼-inch rule.

Softwoods.—Coniferous trees, usually evergreen, having needles or scalelike leaves.

Pines. Yellow pine species which include loblolly, longleaf, slash, shortleaf, pitch, Virginia Table Mountain, sand, and spruce pine.

Other softwoods. White pine, hemlock, cypress, eastern redcedar, whitecedar, spruce, and fir.

Stand-size class.—A classification of forest land based on the size class of growing-stock trees on the area.

Sawtimber stands. Stands at least 16.7 percent stocked with growing-stock trees, with half or more of total stocking in sawtimber or poletimber trees, and with sawtimber stocking at least equal to poletimber stocking.

Poletimber stands. Stands at least 16.7 percent stocked with growing-stock trees of which half or more of this stocking is in poletimber and sawtimber trees, and with poletimber stocking exceeding that of sawtimber.

Sapling-seedling stands. Stands at least 16.7 percent stocked with growing-stock trees of which more than half of the stocking is saplings and seedlings.

REFERENCES

This publication reports incidence and impact of damaging agents on South Carolina's timber. It does not discuss their identification or control. Some of the references listed below are cited in our discussion. Others are provided to assist those desiring additional information on causal agents.

Bennett, William H., Charles W. Chellman, and William R. Holt.

1958. Insect enemies of southern pines. USDA For. Serv., Occas. Pap. 164, 35 p. South. For. Exp. Stn., New Orleans, La.

Burns, Denver P.

1970. Insect enemies of yellow-poplar. USDA For. Serv., Res. Pap. NE-159, 15 p. Northeast. For. Exp. Stn., Broomall, Pa.

Craver, Gerald C.

1979. Forest statistics for the Northern Coastal Plain of South Carolina, 1978. USDA For. Serv., Resour. Bull. SE-47, 33 p. Southeast. For. Exp. Stn., Asheville, N.C.

Filer, T. H., J. D. Solomon, F. I. McCracken, and others.

1977. Sycamore pests: a guide to major insects, diseases, and air pollution. 36 p. USDA For. Serv., Southeast. Area, State and Priv. For., Atlanta, Ga. [Unnumbered publication.]

Holmes, Francis W., Clifford S. Chater, and William B. Becker.

- [n.d.]. Culture, diseases, injuries, and pests of maples. Univ. Mass., Coop. Ext. Serv., Publ. 443, 44 p.

Johnson, W. T., W. A. Sinclair, and J. L. Saunders.

- [n.d.]. Insects and diseases of willow and poplar. Cornell Univ., Pest Leaflet A-10, 37 p. Ithaca, N.Y.

Knight, Herbert A., and Joe P. McClure.

1979. South Carolina's forests. USDA For. Serv., Resour. Bull. SE-51, 66 p. Southeast. For. Exp. Stn., Asheville, N.C.

Lockard, C. R., J. A. Putnam, and R. D. Carpenter.

1963. Grade defects in hardwood timber and logs. USDA For. Serv., Agric. Handb. 244, 39 p. U.S. Gov. Print. Off., Washington, D.C.

Morris, R. C., T. H. Filer, J. D. Solomon, F. I. McCracken, N. A. Overgaard, and M. J. Weiss.

1975. Insects and diseases of cottonwood. USDA For. Serv., Gen. Tech. Rep. SO-8, 37 p. South. For. Exp. Stn., New Orleans, La. [In cooperation with Southeast. Area, State and Priv. For.]

Sheffield, Raymond M., and Joanne Hutchison.

1979. Forest statistics for the Southern Coastal Plain of South Carolina, 1978. USDA For. Serv., Resour. Bull. SE-49, 33 p. Southeast. For. Exp. Stn., Asheville, N.C.

Solomon, J. D., F. I. McCracken, R. Lewis, and others.

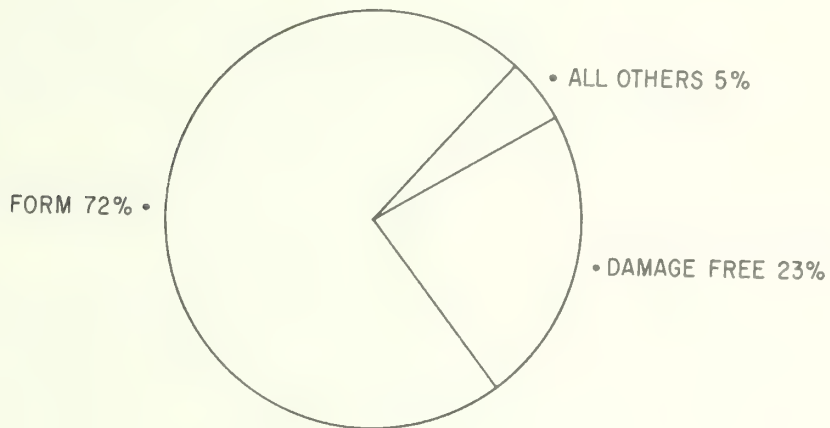
- [In press]. Oak pests: a guide to major insects, diseases, air pollution and chemical injury. USDA For. Serv., Gen. Rep. SA-GR-11, State and Priv. For., Atlanta, Ga.

U.S. Department of Agriculture, Forest Service.

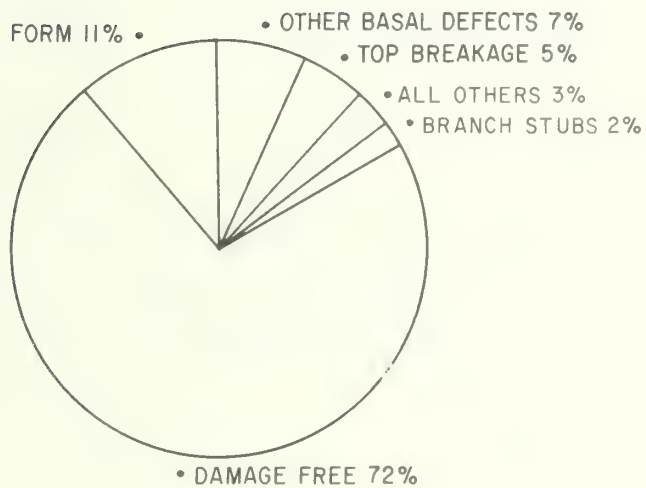
1972. Insects and diseases of trees in the South. USDA For. Serv., Southeast. Area, State and Priv. For. 7, 81 p. Atlanta, Ga.

Figure 1.--Significant types of damage on major species of forest trees in South Carolina, 1978.

HARDWOODS

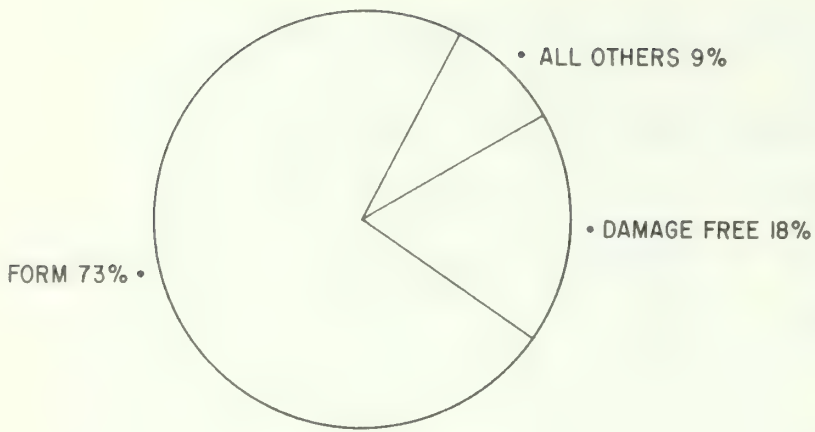


ASH SAPLINGS

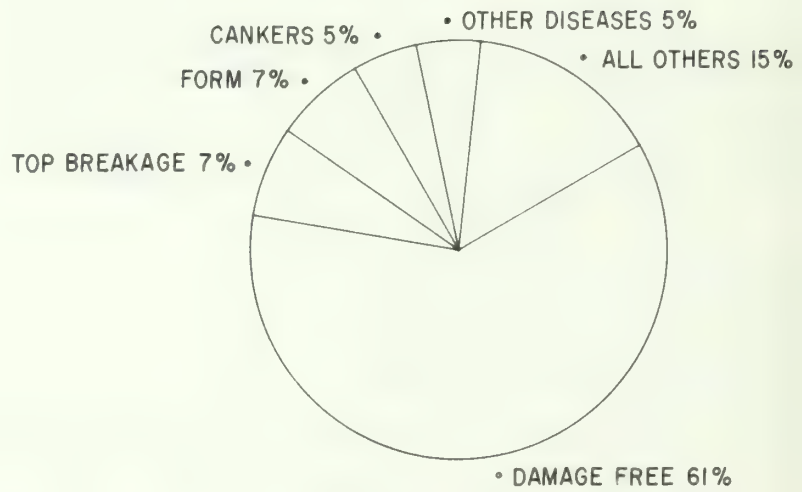


ASH SAWTIMBER

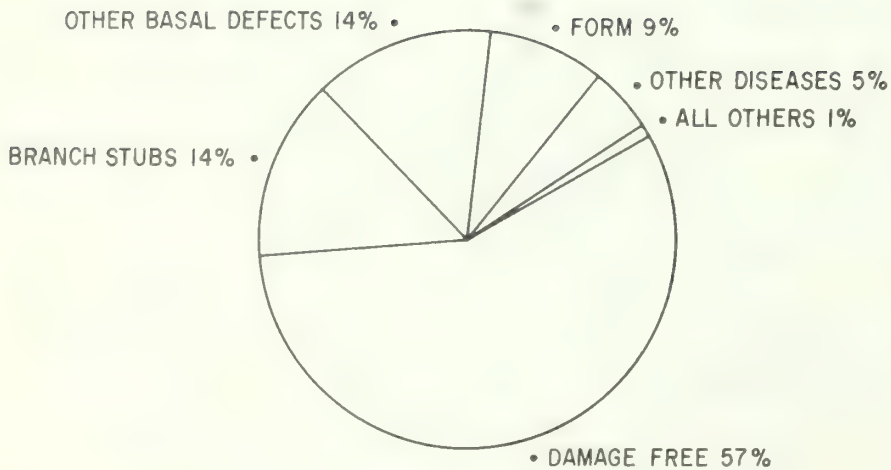
Continued



BLACK CHERRY SAPLINGS

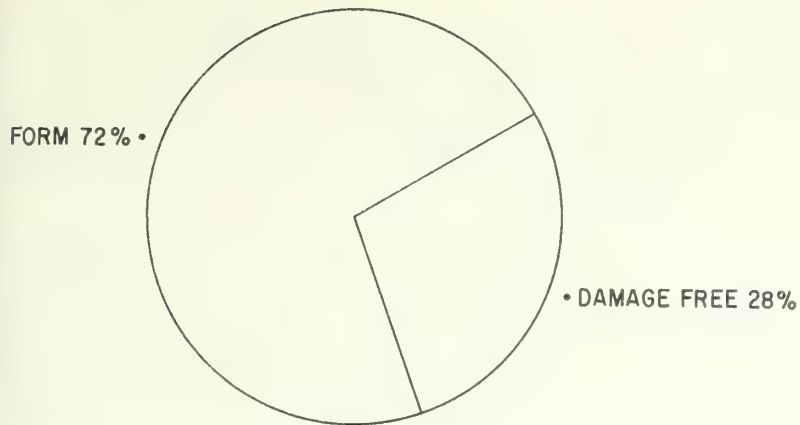


BLACK CHERRY POLETIMBER

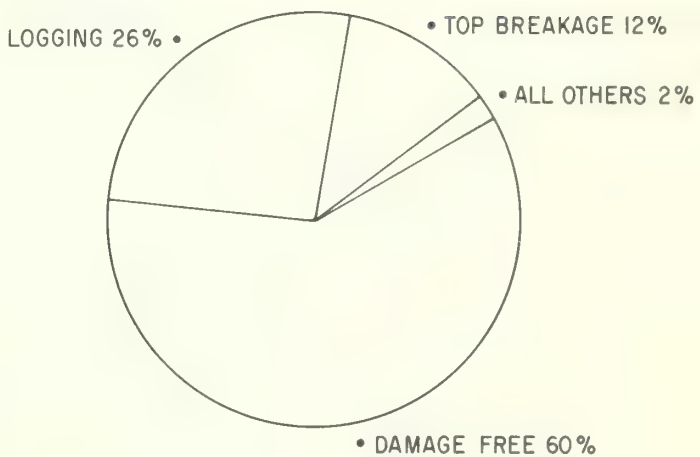


BLACK CHERRY SAWTIMBER

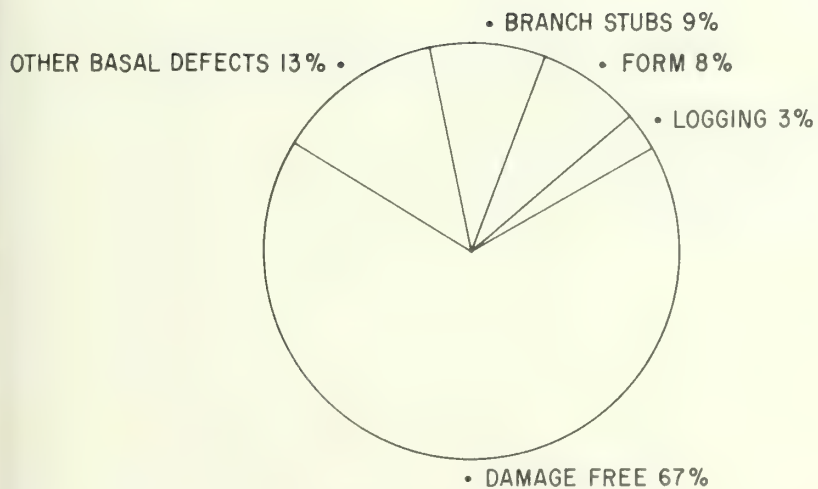
Continued



BLACK WALNUT SAPLINGS

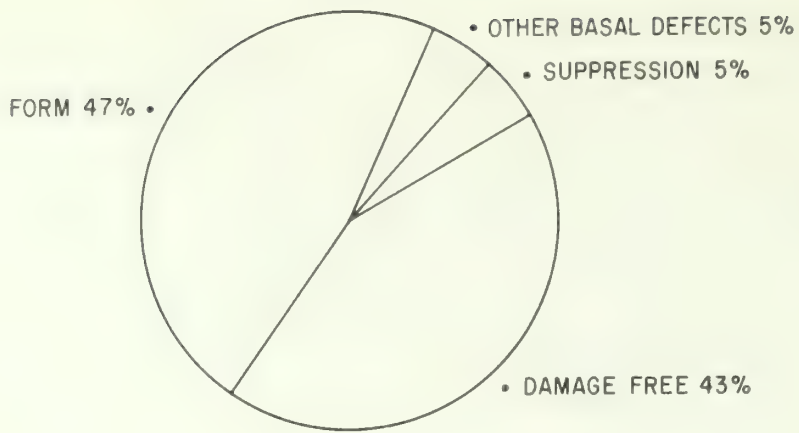


BLACK WALNUT POLETIMBER

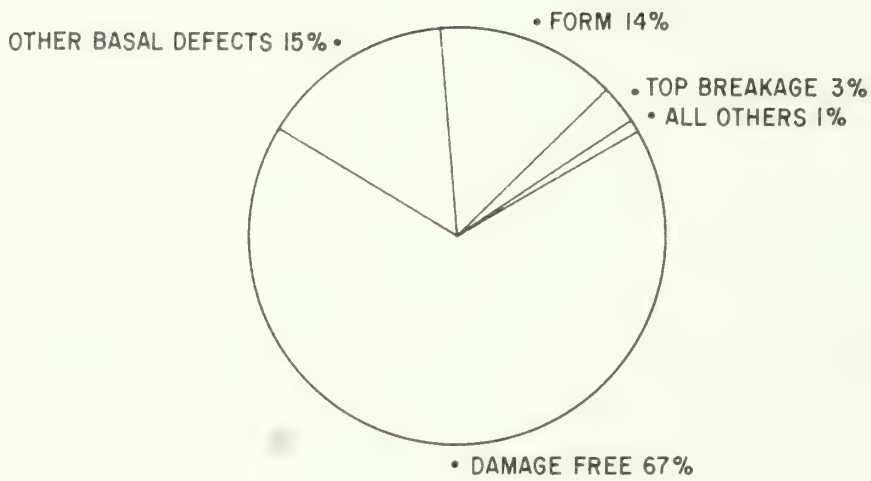


BLACK WALNUT SAWTIMBER

Continued

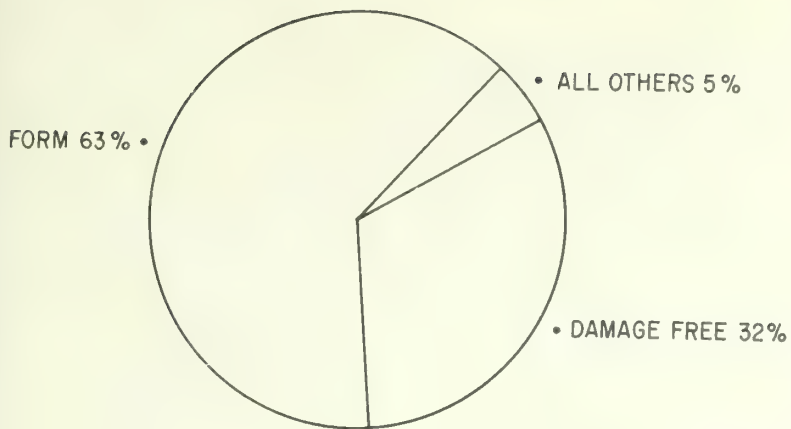


CHESTNUT OAK SAPLINGS

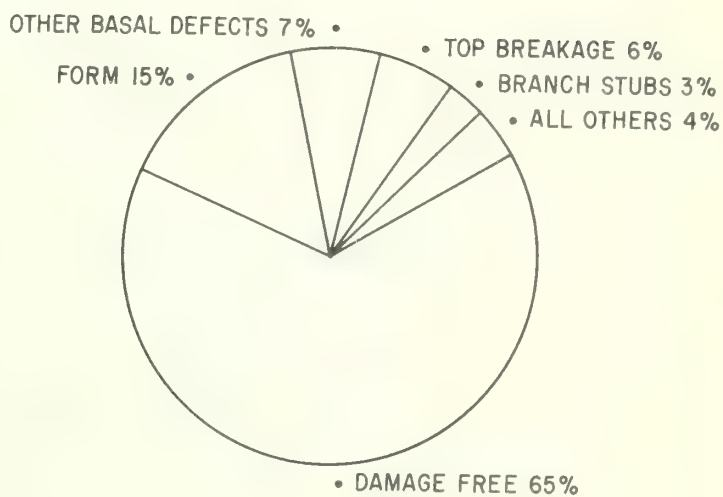


CHESTNUT OAK SAWTIMBER

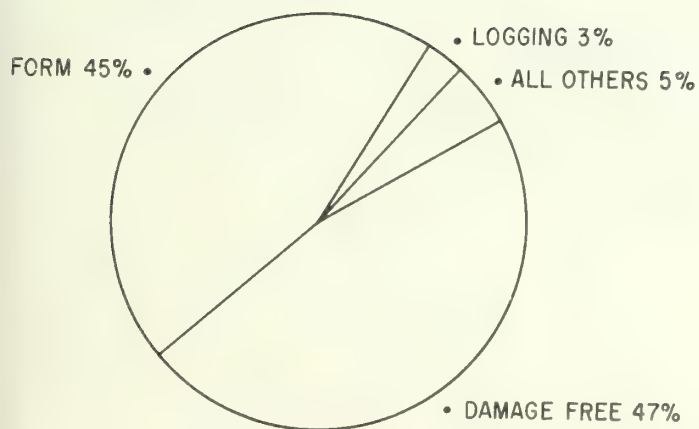
Continued



ELM
SAPLINGS



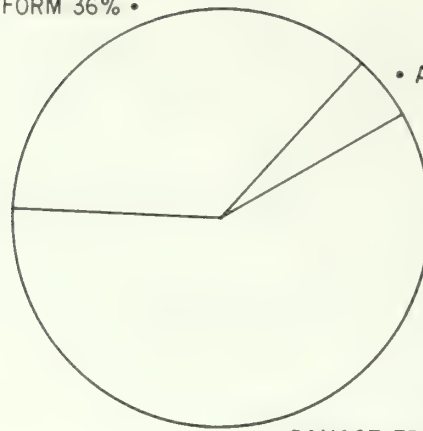
ELM
SAWTIMBER



HICKORY
SAPLINGS

Continued

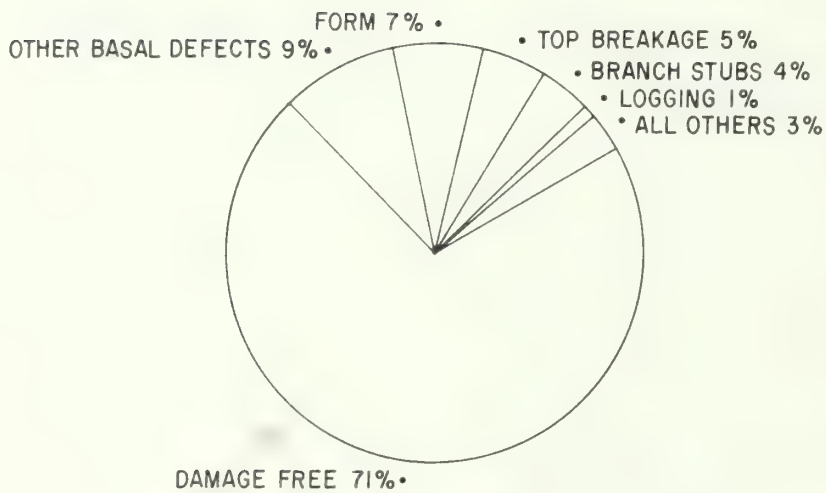
FORM 36% •



• ALL OTHERS 5%

• DAMAGE FREE 59%

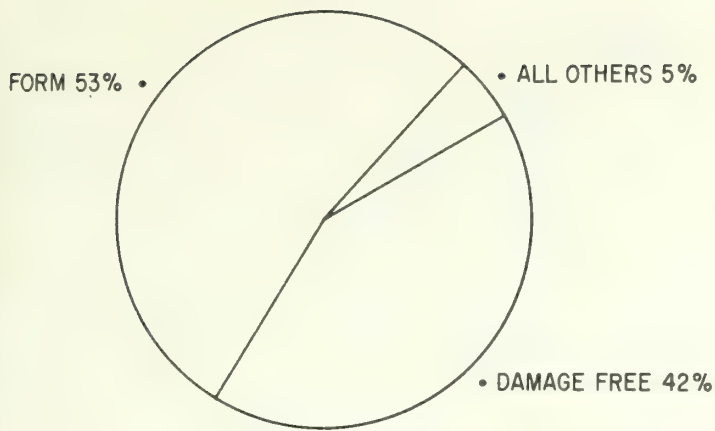
OTHER EASTERN HARDWOODS SAPLINGS



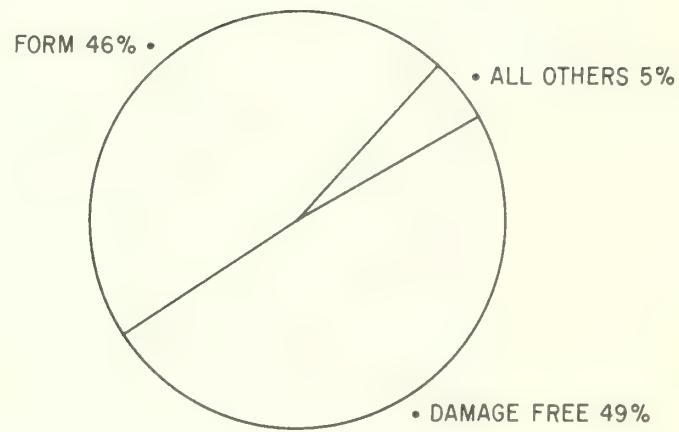
DAMAGE FREE 71% •

OTHER EASTERN HARDWOODS SAWTIMBER

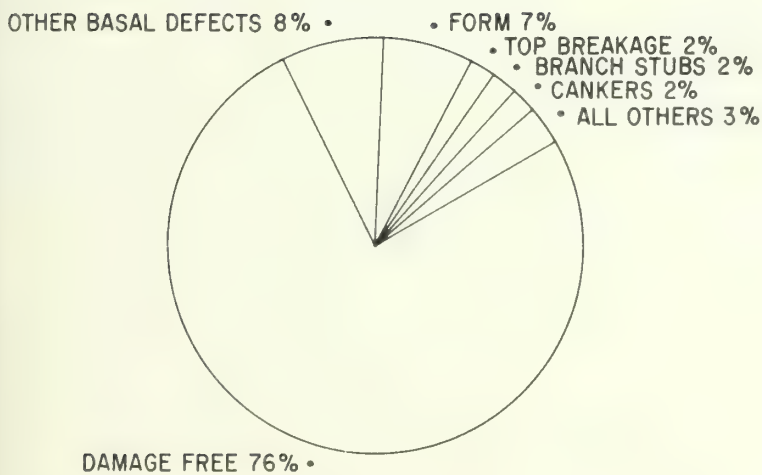
Continued



SELECT RED OAK SAPLINGS

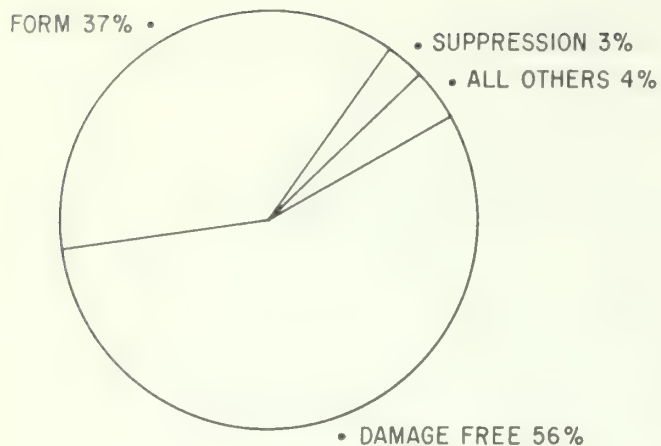


OTHER RED OAKS SAPLINGS



OTHER RED OAKS SAWTIMBER

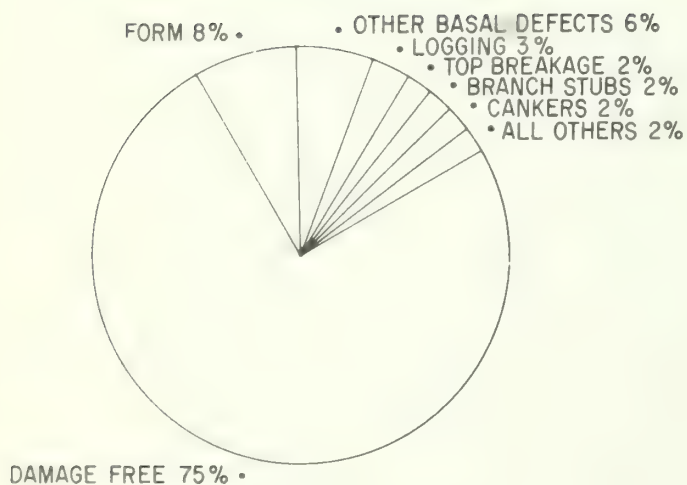
Continued



SELECT WHITE OAK SAPLINGS

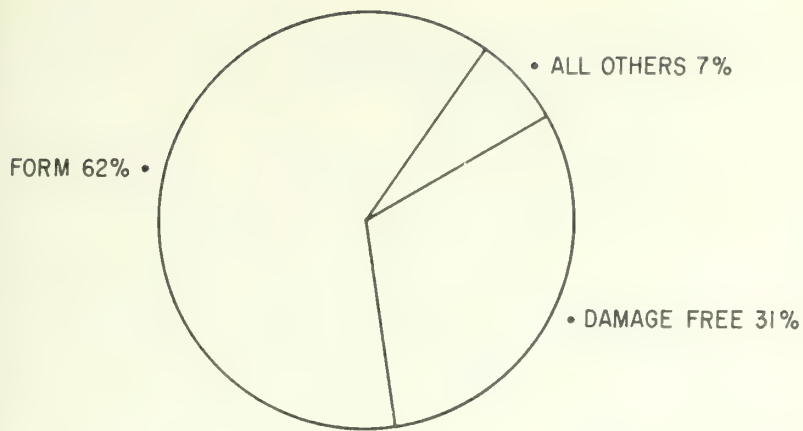


OTHER WHITE OAKS SAPLINGS

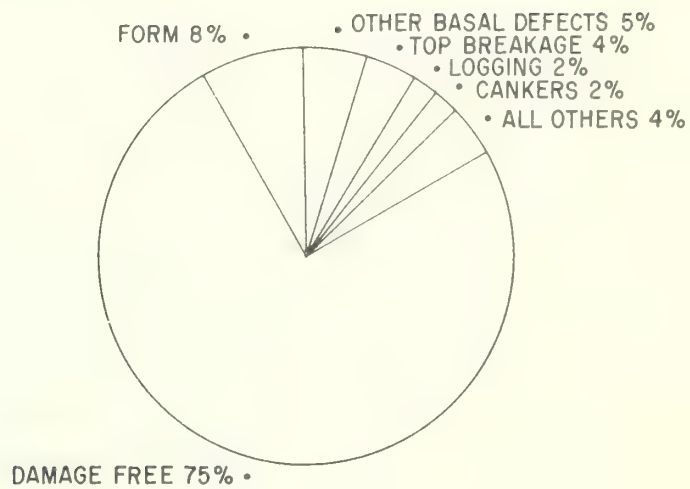


OTHER WHITE OAKS SAWTIMBER

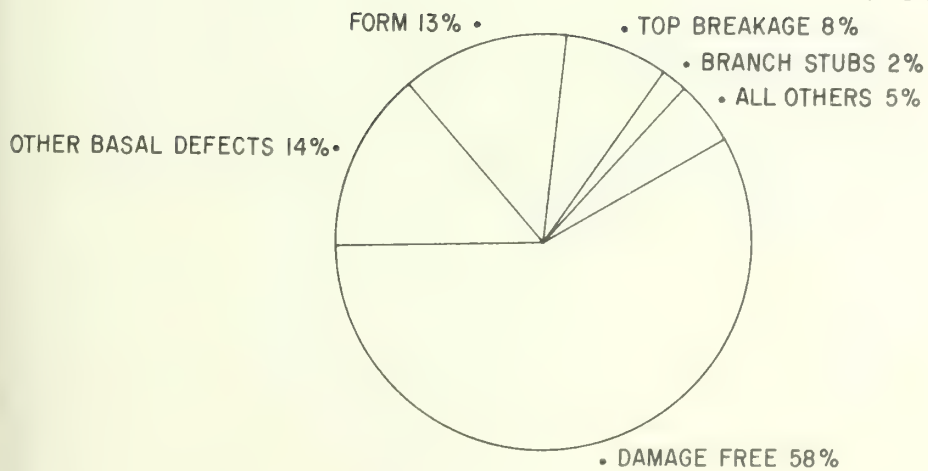
Continued



SOFT MAPLE SAPLINGS

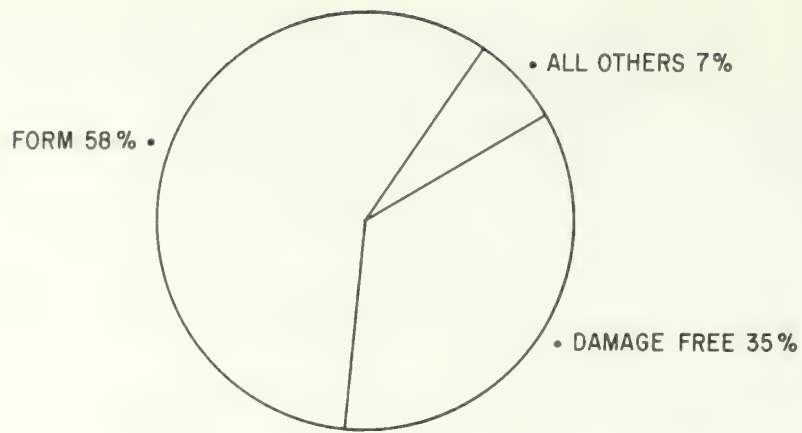


SOFT MAPLE POLETIMBER

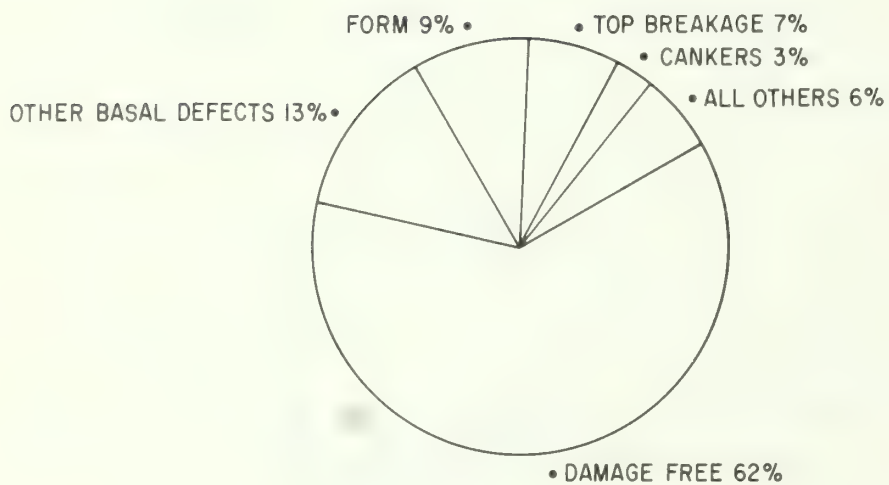


SOFT MAPLE SAWTIMBER

(Continued)

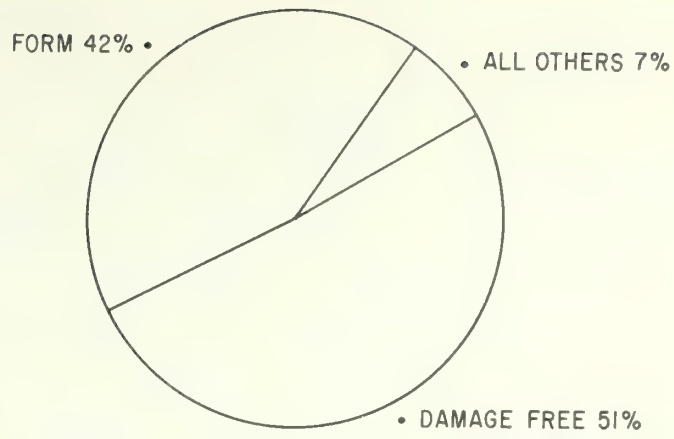


TUPELO AND BLACKGUM SAPLINGS

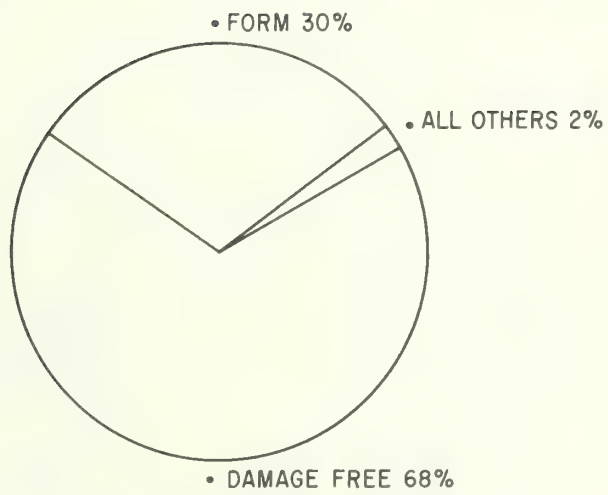


TUPELO AND BLACKGUM SAWTIMBER

Continued



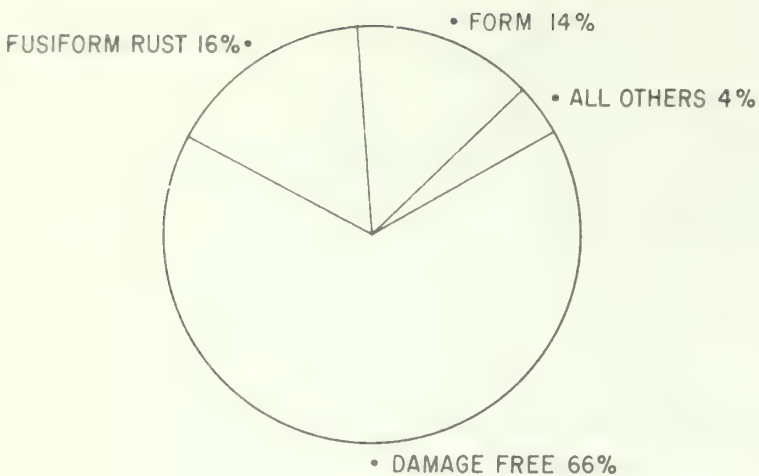
SWEETGUM SAPLINGS



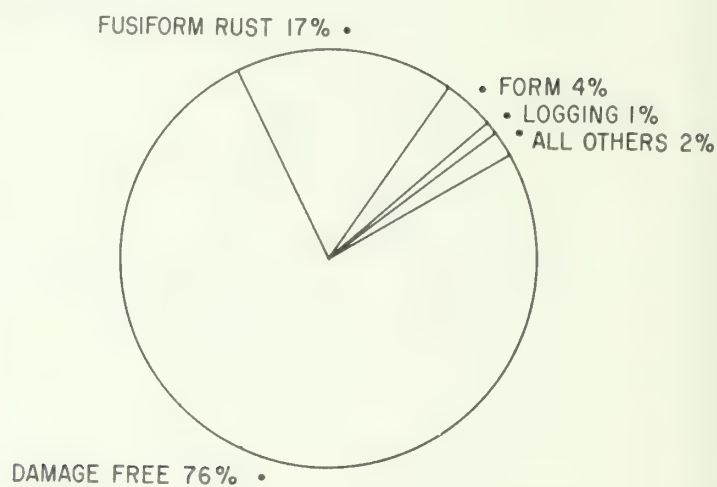
YELLOW-POPLAR SAPLINGS

Continued

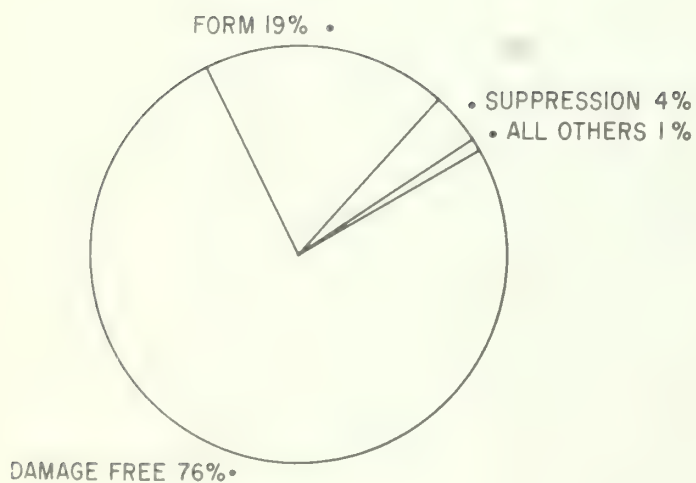
SOFTWOODS



LOBLOLLY PINE
SAPLINGS

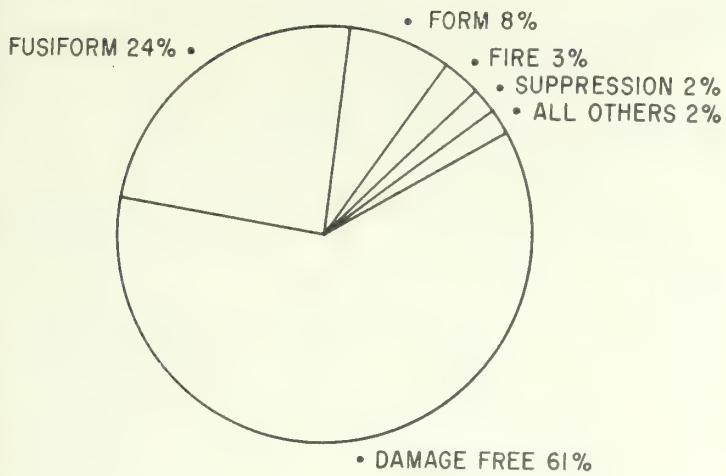


LOBLOLLY PINE
POLETIMBER

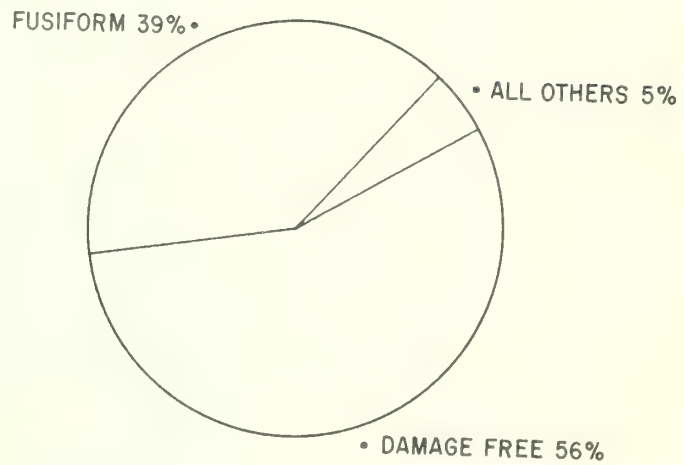


SHORTLEAF PINE
SAPLINGS

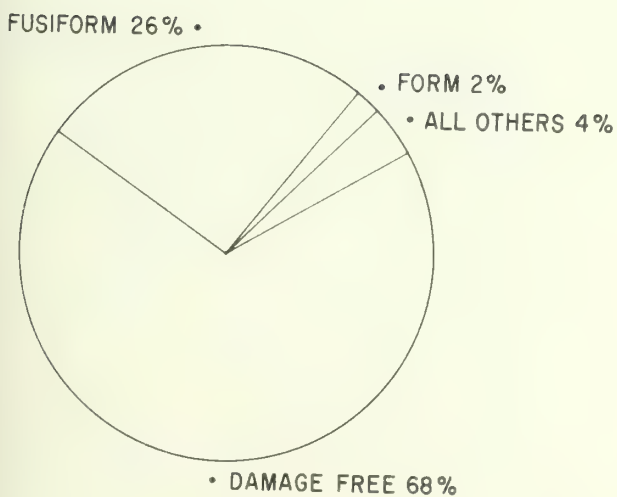
Continued



SLASH PINE SAPPLINGS

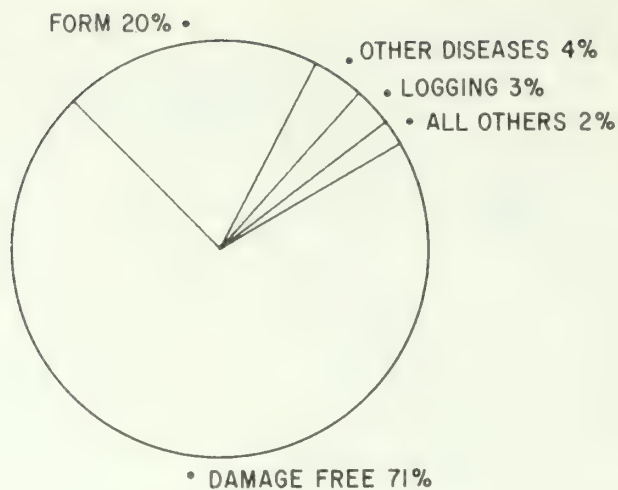


SLASH PINE POLETIMBER



SLASH PINE SAWTIMBER

Continued



VIRGINIA PINE SAPLINGS

Table 1.—Area of commercial forest land,
by stand-size class and forest type

Forest classification	Acres
Stand-size class:	
Sawtimber	5,454,246
Poletimber	3,552,830
Saplings-seedlings	3,223,313
Nonstocked areas	272,517
All stand sizes	12,502,906
Forest type:	
Loblolly pine	3,403,718
Oak-hickory	2,694,392
Oak-gum-cypress	1,990,754
Oak-pine	1,718,544
Shortleaf pine	655,877
Slash pine	512,137
Longleaf pine	471,112
Pond pine	301,549
Elm-ash-cottonwood	277,434
Southern scrub oak	246,457
Virginia pine	178,021
Eastern redcedar	22,764
White pine-hemlock	13,374
Spruce pine	7,735
Pitch pine	4,633
Chestnut oak	4,405
All types	12,502,906

Table 2.—Percent of susceptible softwood trees damaged, by species and tree size

Host	Total population (thousands)	Trees damaged		
		Saplings	Poletimber	Sawtimber
		----- Percent -----		
Loblolly pine	1,419,136	34	24	20
Shortleaf pine	535,107	24	8	8
Redcedar	253,583	22	8	8
Slash pine	193,131	39	44	32
Longleaf pine	128,954	16	16	13
Virginia pine	120,536	29	11	13
Pond pine	103,058	41	31	26
Baldcypress	27,420	27	11	17
White pine	6,344	16	0	7
Spruce pine	4,469	57	16	22
Pitch pine	1,348	100	0	13
Atlantic white-cedar	429	0	0	24

Table 3.—Percent of susceptible hardwood trees damaged, by species and tree size

Host	Total population (thousands)	Trees damaged		
		Saplings	Poletimber	Sawtimber
		----- Percent -----		
Other eastern hardwoods	2,750,458	41	19	29
Sweetgum	1,226,273	49	18	22
Other red oaks	962,620	51	17	24
Soft maple	815,196	69	25	42
Tupelo & blackgum	730,767	65	29	38
Ash	287,671	77	23	28
Hickory	259,151	53	16	22
Select white oaks	209,061	44	13	17
Elm	189,199	68	15	35
Other white oaks	151,737	62	20	25
Yellow-poplar	122,951	32	16	17
Black cherry	106,928	82	29	43
Select red oaks	55,563	58	15	18
Bay & magnolia	34,116	57	5	38
Hard maple	30,187	75	22	54
Chestnut oak	16,136	57	15	33
Beech	12,053	77	8	52
Cottonwood	8,694	65	23	29
Sycamore	4,661	58	20	21
Black walnut	2,706	72	40	33
Black locust	1,628	100	36	48
Basswood	285	--	12	51

Table 4.—Damage incidence and associated cull in softwoods in South Carolina, 1978

Agent	Incidence of damage			Associated cull		Accumulated volume loss		Associated volume loss from saw-timber to poletimber
	Saplings	Poletimber	Sawtimber	Poletimber	Sawtimber	Poletimber	Sawtimber	
----- Percent -----								
						M ft ³	M bf	M bf
LOBLOLLY PINE (1,419,136,000 susceptible trees)								
Insect	0	0.10	0.26	0	0.57	0	284	0
Other disease	.05	.37	.58	1.25	.84	61	911	0
Fusiform rust	16.07	17.14	12.07	.08	.28	180	628	1,418
Littleleaf disease	0	.05	.01	0	0	0	0	0
Branch stubs	0	.01	0	5.00	0	7	0	0
Top breakage	.16	.18	.21	9.44	9.17	223	3,584	20
Other basal defects	0	.03	.12	5.00	13.00	20	2,896	0
Fire	.36	.42	.54	.31	1.57	17	1,580	20
Animal	0	0	.12	0	0	0	0	0
Weather	.11	.66	.98	.55	.67	48	1,215	0
Suppression & stagnation	1.99	.50	.11	0	0	0	0	0
Logging & related	.90	1.11	1.61	.32	.30	47	891	0
Form	14.19	3.64	2.90	0	.05	0	263	0
LONGLEAF PINE (128,954,000 susceptible trees)								
Insect	0	.18	.85	0	0	0	0	0
Other disease	.71	.61	.41	0	.45	0	40	0
Fusiform rust	1.71	7.47	2.56	0	.11	0	61	0
Top breakage	.36	.29	.31	7.50	5.83	32	446	0
Other basal defects	0	0	.36	0	9.09	0	810	0
Fire	1.16	1.69	2.01	0	.47	0	243	20
Animal	0	.11	.80	0	0	0	0	0
Weather	.70	1.50	1.20	0	0	0	0	0
Suppression & stagnation	.69	.19	0	0	0	0	0	0
Logging & related	1.60	3.53	3.02	0	0	0	0	0
Turpentining	0	0	.63	0	.45	0	60	0
Form	8.58	.67	1.12	0	0	0	0	0
PITCH PINE (1,348,000 susceptible trees)								
Animal	0	0	2.21	0	0	0	0	0
Weather	0	0	8.58	0	0	0	0	0
Form	100.00	0	2.70	0	0	0	0	0

Continued

Table 4.—Damage incidence and associated cull in softwoods in South Carolina, 1978 Continued

Agent	Incidence of damage			Associated cull		Accumulated volume loss		Associated volume loss from saw-timber to poletimber
	Saplings	Poletimber	Sawtimber	Poletimber	Sawtimber	Poletimber	Sawtimber	
----- Percent -----								
----- M ft ³ -----								
----- M bf -----								
POND PINE (103,058,000 susceptible trees)								
Insect	0	.29	.89	0	0	0	0	0
Other disease	0	.68	.84	0	2.00	0	263	0
Fusiform rust	12.73	19.28	16.78	.17	.30	40	810	284
Top breakage	0	1.38	.51	9.62	9.29	163	770	0
Other basal defects	0	0	.24	0	8.57	0	324	20
Fire	3.46	3.46	1.48	0	2.17	0	506	40
Animal	0	0	.03	0	0	0	0	0
Weather	1.38	1.30	.75	0	6.43	0	770	0
Suppression & stagnation	1.45	.59	.14	0	0	0	0	0
Logging & related	.93	.62	1.67	0	.48	0	122	0
Form	21.51	3.66	2.92	.17	0	8	0	0
SLASH PINE (193,131,000 susceptible trees)								
Insect	.24	.04	.68	0	0	0	0	0
Other disease	.24	.22	.29	0	0	0	0	0
Fusiform rust	24.46	38.52	25.93	.02	.09	23	304	122
Top breakage	.24	.34	.63	19.29	8.33	199	668	0
Fire	2.95	.62	.38	0	0	0	0	0
Animal	.25	0	.04	0	0	0	0	0
Weather	.25	1.97	1.16	0	0	0	0	0
Suppression & stagnation	2.22	.19	.07	0	0	0	0	0
Logging & related	0	.29	.70	0	0	0	0	0
Turpentining	0	0	.07	0	1.67	0	20	0
Form	7.76	1.72	2.14	0	0	0	0	0
SPRUCE PINE (4,469,000 susceptible trees)								
Suppression & stagnation	28.92	0	0	0	0	0	0	0
Logging & related	14.51	9.43	2.99	0	7.50	0	324	0
Form	13.08	6.28	18.89	0	0	0	0	0
SHORTLEAF PINE (535,107,000 susceptible trees)								
Insect	.06	.19	.40	0	0	0	0	0
Other disease	.46	.42	.46	0	0	0	0	0
Fusiform rust	.11	.16	.33	0	.63	0	61	0
Littleleaf disease	.78	2.94	2.29	0	.06	0	20	0
Top breakage	.12	.03	.08	5.00	5.00	7	101	0
Other basal defects	0	.21	.45	8.33	15.63	77	1,904	40
Fire	0	.05	.03	0	0	0	0	0
Animal	0	0	.22	0	0	0	0	0
Weather	.13	.29	.10	0	0	0	0	0
Suppression & stagnation	3.72	.93	0	0	0	0	0	0
Logging & related	.34	.48	1.14	0	0	0	0	0
Form	18.77	2.41	2.90	0	0	0	0	0

Continued

Table 4.—Damage incidence and associated cull in softwoods in South Carolina, 1978 -Continued

Agent	Incidence of damage			Associated cull		Accumulated volume loss		Associated volume loss from saw-timber to poletimber
	Saplings	Poletimber	Sawtimber	Poletimber	Sawtimber	Poletimber	Sawtimber	
----- Percent -----								
----- M ft ³ -----								
----- M bf -----								
----- M bf -----								
VIRGINIA PINE (120,536,000 susceptible trees)								
Insect	0	.18	1.54	0	0	0	0	0
Other disease	4.37	5.01	3.98	.05	.53	3	142	0
Top breakage	0	.17	1.01	0	0	0	0	0
Other basal defects	.61	0	0	0	0	0	0	0
Animal	0	0	.19	0	0	0	0	0
Weather	0	1.22	1.45	0	1.00	0	101	0
Suppression & stagnation	.52	.41	0	0	0	0	0	0
Logging & related	2.73	.76	.52	0	0	0	0	0
Form	20.01	3.36	5.55	0	0	0	0	0
BALD CYPRESS (27,420,000 susceptible trees)								
Other disease	0	0	.06	0	27.50	0	243	0
Branch stubs	0	0	.12	0	5.00	0	81	0
Top breakage	2.32	.80	3.69	30.00	28.11	83	15,754	81
Other basal defects	0	1.51	6.52	18.33	24.96	96	24,705	324
Fire	2.31	0	.23	0	50.00	0	1,742	0
Animal	0	1.13	.03	2.50	5.00	10	20	0
Weather	0	.80	1.10	0	2.14	0	40	0
Suppression & stagnation	0	2.49	.15	0	0	0	0	0
Logging & related	0	0	.46	0	1.67	0	122	0
Form	21.94	4.11	4.45	0	0	0	0	0
ATLANTIC WHITE-CEDAR (429,000 susceptible trees)								
Other basal defects	0	0	10.92	0	22.50	0	243	0
Logging & related	0	0	13.45	0	0	0	0	0
HEMLOCK (605,000 susceptible trees)								
Logging & related	0	0	8.00	0	0	0	0	0

Continued

Table 4.—Damage incidence and associated cull in softwoods in South Carolina, 1978—Continued

Agent	Incidence of damage			Associated cull		Accumulated volume loss		Associated volume loss from saw-timber to poletimber
	Saplings	Poletimber	Sawtimber	Poletimber	Sawtimber	Poletimber	Sawtimber	
----- Percent -----								
						M ft ³	M bf	M bf
POND CYPRESS (41,036,000 susceptible trees)								
Other disease	0	0	.07	0	5.00	0	20	0
Branch stubs	0	0	.21	0	5.00	0	61	0
Top breakage	0	.99	1.42	45.00	26.67	130	1,883	40
Other basal defects	2.67	2.75	4.09	41.00	29.80	330	6,075	101
Fire	0	.44	1.70	5.00	2.50	24	202	0
Animal	0	0	.24	0	2.50	0	20	0
Weather	0	0	.90	0	0	0	0	0
Suppression & stagnation	1.78	.79	0	0	0	0	0	0
Logging & related	.89	1.09	.90	0	1.25	0	61	0
Form	14.29	7.01	5.81	0	0	0	0	0
REDCEDAR (253,583,000 susceptible trees)								
Other disease	0	.36	.31	0	0	0	0	0
Top breakage	0	.97	0	5.00	0	19	0	0
Other basal defects	0	.50	2.88	5.00	24.00	10	729	0
Fire	0	.21	0	5.00	0	4	0	0
Weather	1.12	1.16	0	0	0	0	0	0
Suppression & stagnation	2.34	1.94	1.89	0	0	0	0	20
Logging & related	.97	2.21	0	0	0	0	0	0
Form	18.02	1.00	3.04	0	0	0	0	0
WHITE PINE (6,344,000 susceptible trees)								
Insect	0	0	1.36	0	0	0	0	0
Top breakage	7.58	0	0	0	0	0	0	0
Other basal defects	0	0	2.91	0	23.33	0	688	0
Weather	8.29	0	1.55	0	0	0	0	0
Logging & related	0	0	1.55	0	0	0	0	0

Table 5.—Damage incidence and associated cull in hardwoods in South Carolina, 1978

Agent	Incidence of damage			Associated cull		Accumulated volume loss		Associated volume loss from saw-timber to poletimber
	Saplings	Poletimber	Sawtimber	Poletimber	Sawtimber	Poletimber	Sawtimber	
----- Percent -----								
----- M ft ³ -----								
----- M bf -----								
BASSWOOD (285,000 susceptible trees)								
Top breakage	0	11.67	0	5.00	0	5	0	0
Weather	0	0	51.11	0	0	0	0	0
BLACK CHERRY (106,928,000 susceptible trees)								
Other disease	2.78	4.52	5.62	0	0	0	0	0
Hardwood cankers	1.94	5.32	0	0	0	0	0	0
Branch stubs	.25	.75	14.46	5.00	7.50	9	506	0
Top breakage	1.55	6.88	0	26.25	0	421	0	0
Other basal defects	.76	1.02	13.65	47.50	12.50	113	790	0
Fire	.29	.93	0	2.50	0	5	0	0
Weather	0	.57	.80	15.00	0	20	0	0
Suppression & stagnation	1.01	1.02	0	0	0	0	0	0
Logging & related	.40	1.24	0	0	0	0	0	0
Form	72.61	6.84	8.84	0	0	0	0	0
COTTONWOOD (8,694,000 susceptible trees)								
Other disease	0	0	1.35	0	13.33	0	547	0
Hardwood cankers	0	2.68	.56	0	0	0	0	0
Branch stubs	0	0	2.54	0	11.43	0	871	40
Top breakage	0	.82	2.85	85.00	14.00	49	1,195	0
Other basal defects	0	0	7.14	0	11.15	0	2,390	40
Weather	0	0	1.11	0	0	0	0	0
Animal	0	3.19	0	0	0	0	0	0
Suppression & stagnation	12.11	0	.32	0	0	0	0	0
Logging & related	5.15	0	.95	0	0	0	0	0
Form	47.82	16.53	11.97	0	.83	0	304	0
ELM (189,199,000 susceptible trees)								
Other disease	0	0	.92	0	3.33	0	223	0
Hardwood cankers	0	0	.67	0	0	0	0	0
Branch stubs	0	.42	2.79	5.00	8.50	14	1,721	142
Top breakage	2.24	1.41	5.58	10.00	15.23	96	6,196	162
Other basal defects	.18	1.28	7.25	6.88	18.29	60	9,659	263
Fire	0	0	.50	0	3.33	0	121	0
Weather	0	.72	.47	0	20.00	0	688	0
Animal	0	0	.65	0	0	0	0	0
Suppression & stagnation	.58	2.22	.72	0	0	0	0	0
Logging & related	2.28	1.88	1.22	0	2.50	0	223	0
Form	63.12	7.07	14.70	0	0	0	0	0

Continued

Table 5.—Damage incidence and associated cull in hardwoods in South Carolina, 1978 -Continued

Agent	Incidence of damage			Associated cull		Accumulated volume loss		Associated volume loss from saw-timber to poletimber
	Saplings	Poletimber	Sawtimber	Poletimber	Sawtimber	Poletimber	Sawtimber	
----- Percent -----					<i>M ft³</i>	<i>M bf</i>	<i>M bf</i>	
SWEETGUM (1,226,273 susceptible trees)								
Other disease	0	0	.06	0	16.67	0	608	0
Hardwood cankers	0	.12	.41	5.00	.88	28	223	0
Branch stubs	.08	.05	.97	5.00	14.05	12	8,262	0
Top breakage	1.79	2.59	3.26	21.00	15.22	2,537	30,112	0
Other basal defects	.28	1.94	5.15	16.12	21.29	1,459	66,521	78
Fire	1.32	1.69	.96	1.00	9.04	79	5,265	0
Weather	.25	.75	.48	.34	1.33	12	385	0
Animal	0	.24	.19	0	0	0	0	0
Suppression & stagnation	1.33	.78	.18	0	.71	0	81	0
Logging & related	2.12	2.76	1.44	2.72	2.33	350	2,045	0
Form	42.06	7.30	8.88	.02	.10	7	547	0
SYCAMORE (4,661,000 susceptible trees)								
Other disease	0	0	.91	0	15.00	0	405	0
Hardwood cankers	0	0	.26	0	0	0	0	0
Branch stubs	0	0	.85	0	15.00	0	364	0
Top breakage	0	1.14	1.43	5.00	12.50	3	526	0
Other basal defects	0	0	1.82	0	13.40	0	709	0
Weather	0	5.21	4.04	0	21.60	0	2,552	40
Suppression & stagnation	0	7.17	0	0	0	0	0	0
Logging & related	0	0	1.11	0	2.50	0	81	0
Form	58.04	6.60	10.35	0	0	0	0	0
YELLOW-POPLAR (122,951,000 susceptible trees)								
Other disease	0	0	.05	5.00	0	4	0	0
Hardwood cankers	0	0	1.40	0	1.54	0	526	0
Branch stubs	0	.40	.33	5.00	16.25	17	1,296	0
Top breakage	1.11	3.25	1.78	21.32	30.22	599	12,960	243
Other basal defects	.37	2.11	5.06	10.94	18.31	199	22,316	344
Fire	.28	1.70	.33	4.09	20.71	60	1,640	0
Weather	0	1.27	1.30	0	3.53	0	1,114	0
Animal	0	0	.45	0	0	0	0	0
Suppression & stagnation	.30	.18	0	0	0	0	0	0
Logging & related	.83	.74	.49	2.00	3.13	13	364	0
Form	29.51	6.09	5.40	0	0	0	0	0

Continued

Table 5.—Damage incidence and associated cull in hardwoods in South Carolina, 1978 Continued

Agent	Incidence of damage			Associated cull		Accumulated volume loss		Associated volume loss from saw-timber to poletimber
	Saplings	Poletimber	Sawtimber	Poletimber	Sawtimber	Poletimber	Sawtimber	
	----- Percent -----					M ft ³	M bf	M bf
	ASH (287,671,000 susceptible trees)							
Other disease	0	0	.07	0	40.00	0	344	0
Hardwood cankers	.19	.42	.70	0	4.17	0	364	0
Branch stubs	.32	.52	2.19	10.00	13.96	45	3,868	182
Top breakage	2.31	4.76	5.38	19.50	29.10	809	19,784	425
Other basal defects	.29	4.07	6.76	15.31	17.00	543	547	20
Fire	0	.36	0	7.50	0	0	0	0
Weather	.12	.19	.15	0	0	0	0	0
Animal	0	.74	.76	0	0	0	0	0
Suppression & stagnation	1.36	2.01	.30	0	0	0	0	0
Logging & related	.57	2.30	1.06	1.25	.83	25	101	0
Form	71.96	7.69	10.82	0	.07	0	101	0
	BEECH (12,053,000 susceptible trees)							
Branch stubs	0	0	3.18	0	15.00	0	932	506
Top breakage	0	0	2.18	0	36.67	0	1,559	20
Other basal defects	0	1.67	16.48	5.00	29.29	5	13,082	284
Fire	0	0	.70	0	40.00	0	547	0
Weather	0	0	.99	0	35.00	0	668	0
Logging & related	15.00	1.67	1.89	0	17.50	0	648	20
Form	61.72	4.67	26.71	0	.56	0	284	0
	BLACK LOCUST (1,628,000 susceptible trees)							
Hardwood cankers	0	13.48	30.43	6.00	20.00	28	547	0
Other basal defects	0	14.78	17.39	40.00	5.00	206	81	0
Weather	0	5.02	0	5.00	0	1	0	0
Form	100.00	2.79	0	0	0	0	0	0
	BLACK WALNUT (2,706,000 susceptible trees)							
Branch stubs	0	0	8.68	0	10.00	0	405	0
Top breakage	0	11.89	0	12.50	0	33	0	0
Other basal defects	0	0	13.22	0	35.00	0	2,187	81
Suppression & stagnation	0	1.73	0	0	0	0	0	0
Logging & related	0	25.73	3.31	0	10.00	0	162	0
Form	71.80	0	7.85	0	0	0	0	0

Continued

Table 5.—Damage incidence and associated cull in hardwoods in South Carolina, 1978 Continued

Agent	Incidence of damage			Associated cull		Accumulated volume loss		Associated volume loss from saw-timber to poletimber
	Saplings	Poletimber	Sawtimber	Poletimber	Sawtimber	Poletimber	Sawtimber	
----- Percent -----								
						M ft ³	M bf	M bf
HICKORY (259,151,000 susceptible trees)								
Hardwood cankers	0	.13	.68	5.00	1.67	7	162	0
Branch stubs	0	.26	.97	16.25	8.00	46	1,174	0
Top breakage	1.30	1.08	1.47	15.00	18.89	176	4,212	0
Other basal defects	.79	1.85	5.91	15.50	22.18	312	19,845	526
Fire	.34	1.61	.20	14.00	10.00	245	3,038	0
Weather	.31	.39	.82	2.50	3.75	11	466	0
Animal	0	.63	.09	0	0	0	0	0
Suppression & stagnation	1.83	.54	.02	0	0	0	0	0
Logging & related	3.45	2.81	1.21	9.35	13.18	286	2,410	0
Form	45.26	6.91	10.86	0	.32	0	526	0
CHESTNUT OAK (16,136,000 susceptible trees)								
Branch stubs	0	0	1.97	0	13.75	0	688	61
Top breakage	0	2.80	2.69	15.00	47.50	59	3,220	0
Other basal defects	5.27	3.06	14.23	9.25	26.84	3,978	9,619	263
Fire	0	1.11	0	0	0	0	0	0
Suppression & stagnation	5.27	0	0	0	0	0	0	0
Form	46.72	7.57	13.99	0	0	0	0	0
SELECT RED OAKS (55,563,000 susceptible trees)								
Hardwood cankers	0	.20	.45	5.00	0	4	0	0
Branch stubs	0	0	.66	0	29.03	0	1,620	40
Top breakage	1.04	.54	1.98	27.27	9.68	52	1,620	40
Other basal defects	0	1.40	6.09	35.21	11.19	174	5,751	162
Fire	1.35	1.15	1.36	0	3.13	0	364	0
Animal	0	.52	.28	0	0	0	0	0
Weather	0	.52	.70	0	3.03	0	182	61
Logging & related	1.36	3.60	.77	4.12	0	52	0	0
Form	52.51	6.89	5.62	0	0	0	0	61
Suppression & stagnation	1.81	.65	.19	0	0	0	0	0

Continued

Table 5.—Damage incidence and associated cull in hardwoods in South Carolina, 1978 --Continued

Agent	Incidence of damage			Associated cull		Accumulated volume loss		Associated volume loss from sawtimber to poletimber			
	Saplings	Poletimber	Sawtimber	Poletimber	Sawtimber	Poletimber	Sawtimber				
----- Percent -----									M ft ³	M bf	M bf
SELECT WHITE OAKS (209,061,000 susceptible trees)											
Other disease	0	.15	.05	0	0	0	0	0			
Hardwood											
cankers	0	.76	.81	0	2.08	0	364	40			
Branch stubs	.62	.25	.36	12.39	9.30	5	709	0			
Top breakage	1.47	1.17	.79	13.52	22.58	25	3,807	40			
Other basal											
breakage	.19	.57	3.51	22.52	18.07	20	13,568	324			
Fire	0	.29	.23	12.50	18.52	6	911	20			
Animal	0	0	.65	0	0	0	0	0			
Weather	.16	.67	.57	.97	28.36	1	3,463	20			
Logging & related	1.94	2.04	.68	.32	1.25	1	182	61			
Form	37.17	6.33	9.72	0	0	0	0	0			
Suppression & stagnation	2.60	.54	.06	0	0	0	0	20			
OTHER RED OAKS (962,620,000 susceptible trees)											
Other disease	.06	.15	.51	15.22	9.52	117	3,301	162			
Hardwood											
cankers	.14	1.13	1.97	.70	4.36	40	5,852	223			
Branch stubs	.10	.28	1.98	33.49	20.30	479	27,398	668			
Top breakage	.86	1.85	2.45	20.70	35.01	1,958	58,462	1,114			
Other basal											
defects	.36	1.48	7.91	20.13	21.82	1,523	11,763	3,524			
Fire	1.17	1.17	.88	3.19	17.07	191	10,246	162			
Animal	0	.06	0	0	0	0	0	0			
Weather	.20	.79	.80	3.09	5.33	125	2,916	142			
Logging & related	1.25	1.94	.77	2.55	2.09	253	1,094	40			
Form	45.67	7.06	6.87	.20	.08	72	364	81			
Suppression & stagnation	.86	.64	.07	0	11.54	0	547	20			
OTHER WHITE OAKS (151,737,000 susceptible trees)											
Other disease	0	.38	.59	13.86	23.81	40	1,742	81			
Hardwood											
cankers	.41	1.96	1.78	3.04	5.56	45	1,235	142			
Branch stubs	0	.37	1.93	8.16	13.97	23	3,341	284			
Top breakage	1.06	1.68	2.18	22.44	64.29	285	17,395	243			
Other basal											
defects	.47	2.17	5.98	13.40	22.75	220	16,868	850			
Fire	.86	1.47	1.63	5.06	3.48	56	709	101			
Weather	.58	1.16	.55	.68	10.26	6	709	40			
Logging & related	1.16	4.39	2.76	1.87	4.62	62	1,580	304			
Form	55.15	4.74	7.73	0	0	0	0	20			
Suppression & stagnation	1.85	1.42	.30	0	0	0	0	40			

Continued

Table 5.—Damage incidence and associated cull in hardwoods in South Carolina, 1978 Continued

Agent	Incidence of damage			Associated cull		Accumulated volume loss		Associated volume loss from saw-timber to poletimber
	Saplings	Poletimber	Sawtimber	Poletimber	Sawtimber	Poletimber	Sawtimber	
----- Percent -----						M ft ³	M bf	M bf
HARD MAPLE (30,187,000 susceptible trees)								
Top breakage	1.59	0	15.49	0	59.09	0	3,179	101
Other basal defects	1.63	15.19	10.56	4.90	20.00	30	729	61
Fire	0	0	2.82	0	0	0	0	0
Weather	0	0	9.15	0	0	0	0	0
Logging & related	1.67	0	0	0	0	0	0	0
Form	70.03	4.62	15.49	0	0	0	0	0
Suppression & stagnation	0	2.08	0	0	0	0	0	0
SOFT MAPLE (815,196,000 susceptible trees)								
Other disease	.07	.11	.31	21.05	2.27	53	162	61
Hardwood cankers	.57	1.75	1.51	1.36	6.16	55	2,126	263
Branch stubs	.22	.42	2.53	10.71	16.38	104	9,436	628
Top breakage	1.54	4.10	7.88	28.51	32.00	2,694	57,429	2,268
Other basal defects	.58	5.07	13.88	21.90	25.75	2,559	81,405	4,030
Fire	.59	1.19	1.17	6.49	25.61	178	6,824	324
Animal	.03	.10	0	0	0	0	0	0
Weather	.42	.83	.99	7.01	8.70	134	1,964	243
Logging & related	1.88	1.77	1.03	.50	9.72	20	2,288	142
Form	62.06	8.42	12.58	0	.11	0	324	122
Suppression & stagnation	.82	.87	.35	0	9.46	0	749	61
BAY & MAGNOLIA (34,116,000 susceptible trees)								
Top breakage	.75	2.05	14.69	4.35	57.69	14	6,237	122
Other basal defects	0	0	6.78	0	16.67	0	830	40
Fire	1.00	3.16	9.60	0	0	0	0	0
Animal	.75	0	0	0	0	0	0	0
Form	54.27	0	7.34	0	0	0	0	0
Suppression & stagnation	0	0	0	0	0	0	0	0

Continued

Table 5.—Damage incidence and associated cull in hardwoods in South Carolina, 1978 Continued

Agent	Incidence of damage			Associated cull		Accumulated volume loss		Associated volume loss from sawtimber to poletimber
	Saplings	Poletimber	Sawtimber	Poletimber	Sawtimber	Poletimber	Sawtimber	
----- Percent -----								
						<i>M ft³</i>	<i>M bf</i>	<i>M bf</i>
TUPELO & BLACKGUM (730,767,000 susceptible trees)								
Other disease	.08	.38	.41	0	0	0	0	101
Hardwood								
cankers	.30	2.28	3.16	1.07	1.05	82	2,329	628
Branch stubs	.09	.33	1.77	7.46	15.35	83	19,116	709
Top breakage	2.44	3.09	6.88	18.62	27.79	1,936	134,480	3,301
Other basal								
defects	.41	6.44	12.94	3.56	24.70	771	224,816	7,047
Fire	.93	1.55	1.94	12.55	16.59	655	22,640	729
Animal	.04	3.87	0	0	0	0	0	0
Weather	.04	1.02	.60	.19	5.22	7	2,207	162
Logging & related	1.76	1.01	.52	.86	.85	29	304	142
Form	57.59	8.45	9.22	.02	.07	6	446	81
Suppression & stagnation	1.48	.88	.14	.22	1.59	7	162	0
OTHER EASTERN HARDWOODS (2,750,458 susceptible trees)								
Other disease	.04	0	.20	0	30.77	0	648	--
Hardwood								
cankers	.17	.97	.19	1.75	0	41	0	--
Branch stubs	.10	.93	3.71	1.83	23.85	41	9,234	--
Top breakage	1.52	3.93	4.61	19.15	31.99	1,805	15,390	--
Other basal								
defects	.39	5.01	9.06	19.25	36.64	2,313	34,628	--
Fire	.59	.67	.25	10.03	6.25	161	162	0
Animal	0	.17	.08	0	0	0	0	0
Weather	.20	.82	.92	7.17	18.64	141	1,782	--
Logging & related	1.05	1.84	1.46	3.23	8.51	143	1,296	--
Form	36.42	4.22	7.40	.05	0	5	0	--
Suppression & stagnation	.77	.60	1.27	3.03	0	44	0	--

Table 6.—Timber removals and wood loss to poletimber and sawtimber

Species	Annual timber removals		Volume loss due to—				Annual quality loss from sawtimber to nonsawtimber
			Annual mortality		Annual accumulated cull		
	Poletimber	Sawtimber	Poletimber	Sawtimber	Poletimber	Sawtimber	
	<i>M ft³</i>	<i>M bf</i>	<i>M ft³</i>	<i>M bf</i>	<i>M ft³</i>	<i>M bf</i>	<i>M bf</i>
SOFTWOODS							
Yellow pines ^a	58,105	1,330,964	43,298	192,830	115	2,106	198
Eastern white pine	0	2,120	0	0	0	69	0
Cypress ^b	0	23,443	644	761	67	5,103	55
Other eastern softwoods ^c	509	3,967	488	4,724	3	97	2
Total	58,614	1,360,494	44,430	198,315	185	7,375	255
HARDWOODS							
Select white & red oaks ^d	3,244	73,788	684	4,080	34	3,254	89
Other white & red oaks ^e	9,663	137,887	5,321	36,531	953	28,491	824
Hickory	1,427	20,602	170	2,842	108	3,183	53
Hard maple	0	0	0	0	3	390	16
Sweetgum	7,000	89,001	2,182	20,287	448	1,140	8
Ash, walnut, black cherry	618	11,347	1,701	5,193	202	2,916	71
Yellow-poplar	354	38,091	838	4,231	89	4,021	59
Tupelo & blackgum	2,898	66,868	601	8,665	357	40,650	1,290
Bay & magnolia	0	0	131	0	1	706	16
Other eastern hardwoods ^f	3,144	44,267	4,091	32,653	1,095	27,297	974
Total	28,348	481,851	15,719	114,482	3,290	112,048	3,400
All species	86,962	1,842,345	60,149	312,797	3,475	119,423	3,655

^aLoblolly, shortleaf, Virginia, pitch, pond, longleaf, slash, spruce pine.^bBaldcypress and pondcypress.^cCedar and hemlock.^dWhite, swamp chestnut, cherrybark, northern red.^eChestnut, post, water, southern red, scarlet, black.^fBasswood, cottonwood, elm, sycamore, beech, black locust, and soft maple.

Table 7.—Annual economic impact of damage on the timber resource

Species	Annual volume wood fiber loss	Stumpage value per unit	Dollar loss
----- Dollars -----			
Softwoods:			
Sawtimber (M bm) ^a	205,945	124.10/M	25,557,775
Poles (M ft ³) ^b	44,615	17.63	786,562
Hardwoods:			
Sawtimber (M bm)	229,930	64.11	14,740,812
Poles (M ft ³)	19,009	5.09	96,756
All species:			
Sawtimber (M bm)	435,875		40,298,587
Poles (M ft ³)	63,624		883,318
Total			41,181,905

^a1 ft³ = 4.5 fbm.^b1 cord = 75 ft³.

Table 8.—Past treatment or disturbance as related to treatment needed, by number of samples

Item	Treatment needed							Total
	None	Salvage	Harvest	Thinning	Cleaning	Stand con- version	Arti- ficial regeneration	
Wildfire	37	2	1	2	6	5	26	79
Man-caused flooding	2	1	0	0	1	0	5	9
Grazing	42	0	3	2	2	0	7	56
Construction	26	0	3	3	3	0	10	45
Salvage cut	6	1	1	1	1	2	4	16
Significant disease	84	16	0	21	6	6	8	141
Significant insect	32	4	5	3	2	0	11	57
Significant natural	20	2	1	1	2	4	5	35
All others, including none	2,196	13	243	148	246	159	687	3,692
Total of all samples, in- cluding tem- porary plots ^a	2,445	39	257	181	269	176	763	4,130

^aTotal is not the same as the sum of all columns because all damage disturbances are not used in the table.



Anderson, Robert L., Joe P. McClure, William H. Hoffard, and Noel D. Cost
1981. Incidence and impact of damage to South Carolina's timber, 1979 . USDA For.
Serv., Resour. Bull. SE-56, 34 p. Southeast. For. Exp. Stn., Asheville, N.C.

Recognized damaging agents include: insects, fusiform rust, Annosus root rot, littleleaf
disease, hardwood cankers, other diseases, branch stubs, top breakage, other basal defects,
fire, animal, weather, suppression and stagnation, logging and related, damage from tur-
pentining, and form (damaging).

KEYWORDS: Insect losses, disease losses, fusiform rust, decay, and weather damage.

Anderson, Robert L., Joe P. McClure, William H. Hoffard, and Noel D. Cost
1981. Incidence and impact of damage to South Carolina's timber, 1979 . USDA For.
Serv., Resour. Bull. SE-56, 34 p. Southeast. For. Exp. Stn., Asheville, N.C.

Recognized damaging agents include: insects, fusiform rust, Annosus root rot, littleleaf
disease, hardwood cankers, other diseases, branch stubs, top breakage, other basal defects,
fire, animal, weather, suppression and stagnation, logging and related, damage from tur-
pentining, and form (damaging).

KEYWORDS: Insect losses, disease losses, fusiform rust, decay, and weather damage.



The Forest Service, U.S. Department of Agriculture, is dedicated to the principle of multiple use management of the Nation's forest resources for sustained yields of wood, water, forage, wildlife, and recreation. Through forestry research, cooperation with the States and private forest owners, and management of the National Forests and National Grasslands, it strives—as directed by Congress—to provide increasingly greater service to a growing Nation.

USDA policy does not permit discrimination because of race, color, national origin, sex or religion. Any person who believes he or she has been discriminated against in any USDA-related activity should write immediately to the Secretary of Agriculture, Washington, D.C. 20250.

U.S. Department
of Agriculture

Southeastern Forest
Experiment Station

Forest Service
Resource Bulletin
SE-57

Southern Pulpwood Production, 1979

Thomas R. Bellamy and Cecil C. Hutchins, Jr.

GOVT. DOCUMENTS
DEPOSITORY ITEM

JUN 15 1981

CLEMSON
LIBRARY



In this report:

SOUTHERN PULPWOOD	Page
PRODUCTION, BY—	
—roundwood and residues	2, 3, 4
—state	2
—species group	2, 3, 4
—territory	3
—county	5-16
 PULPMILLS USING SOUTHERN	
WOOD, BY—	
—location, process, and ca-	
pacity	17-22
 PULPMILLS UNDER CON-	
STRUCTION	17-22

APRIL 1981
SOUTHEASTERN FOREST EXPERIMENT STATION
ASHEVILLE, NORTH CAROLINA

Southern Pulpwood Production, 1979

**SOUTHEASTERN FOREST EXPERIMENT
STATION**

Asheville, North Carolina

and

**SOUTHERN FOREST EXPERIMENT
STATION**

New Orleans, Louisiana

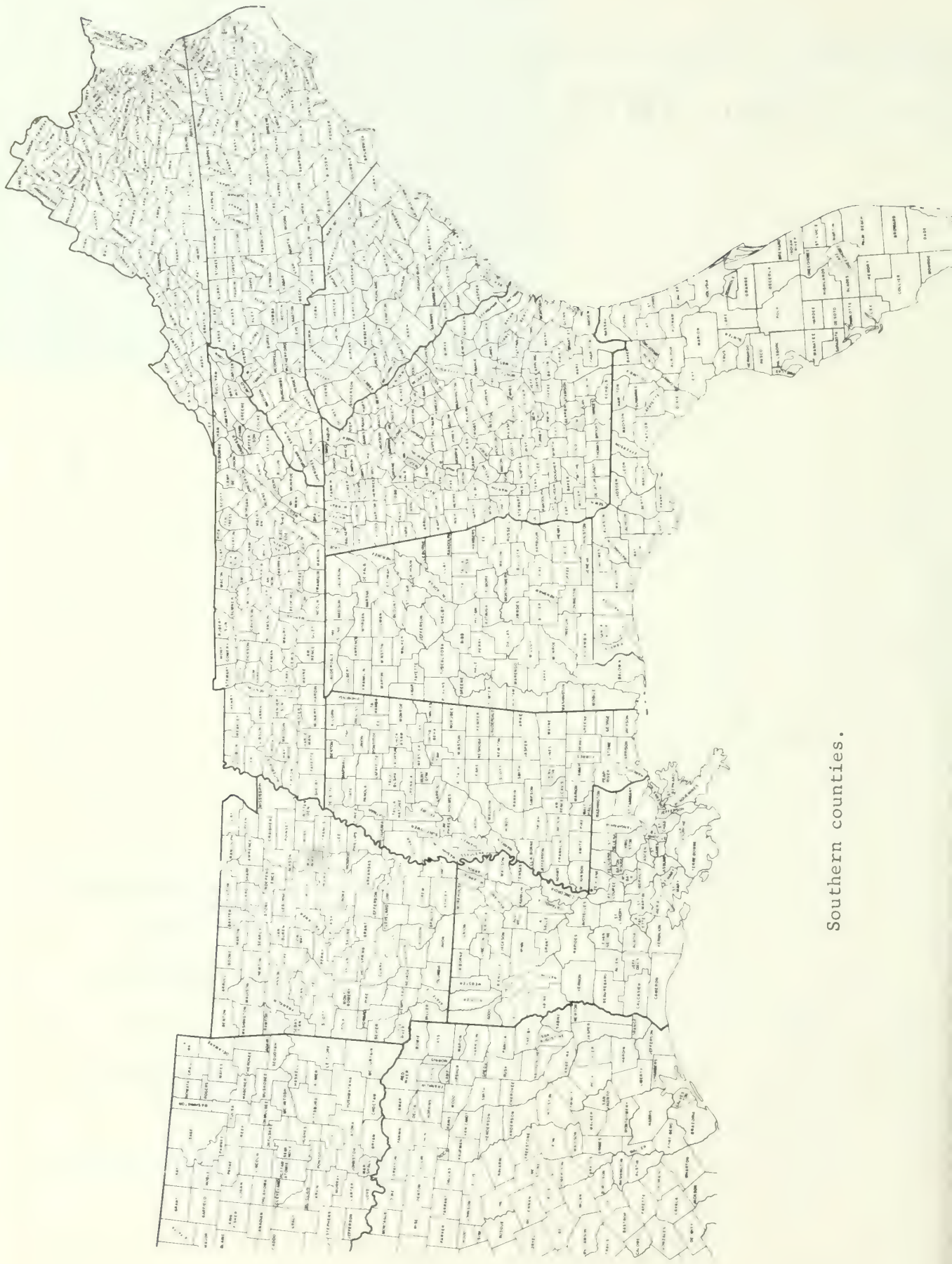
of the

**Forest Service, U. S. Department of
Agriculture**

in cooperation with the

AMERICAN PULPWOOD ASSOCIATION

1979



Southern counties.

SOUTHERN PULPWOOD PRODUCTION, 1979

Thomas R. Bellamy,¹ Associate Mensurationist
and

Cecil C. Hutchins, Jr., Forestry Technician
Renewable Resources Evaluation
Asheville, North Carolina

HIGHLIGHTS: Pulpwood production in the South rose a modest 7 percent in 1979 to 54 million cords. Of the increase, 55 percent was from roundwood and 45 percent was from plant byproducts. Pulping capacity of the 115 mills in the South also rose 7 percent to over 110,000 tons per day.

Keywords: Pulpwood, roundwood, residues, pulp mills.

The 12 Southern States set another record high in 1979 by producing over 54 million cords of pulpwood (table 1). Only three States, North Carolina, Oklahoma, and Texas, failed to report an increase, and total output was 7 percent above the 1978 record. Use of both roundwood and plant byproducts increased (fig. 1); roundwood accounted for 55 percent of the gain and the remaining 45 percent was from plant byproducts.

Roundwood output increased 6 percent above the 1978 production level (tables 2 and 3). Almost all the increase was in the softwood species group (primarily pines). Output of hardwood remained almost the same as in 1978.

Pulping of wood residues continues to increase despite competition from other uses such as fuel. A new high of 18.5 million cords of residue was used for pulp manufacture in 1979, up 10 percent above 1978 (table 4). During the past 4 years, wood residues have consistently accounted for about one-third of all pulp furnish in the South.

Pulping of all types of both softwood and hardwood residue increased (table 5). Mississippi had the largest increase in residue output--51 percent. Output declined only in Arkansas and Oklahoma, with Oklahoma reporting a 90 percent decrease.

Table 1.--Pulpwood production in the South during 1979, and change since 1978

State	Pulpwood	Change
	Thousand cords	Percent
Alabama	8,220.9	+12
Arkansas	4,069.1	+3
Florida	3,833.0	+4
Georgia	9,257.7	+4
Louisiana	4,590.1	+7
Mississippi	7,287.0	+32
North Carolina	4,478.4	-3
Oklahoma	542.4	-12
South Carolina	4,544.1	+6
Tennessee	955.4	+39
Texas	3,890.3	-4
Virginia	2,666.7	+1
All States	54,335.1	+7

The South is divided into two sections--the Southeast, which includes the Atlantic Coast States from Virginia to Florida, and the Midsouth, which includes the Gulf Coast States from Alabama to Texas plus Oklahoma, Arkansas, and Tennessee.

Table 6 compares production in the Southeast and Midsouth. Production of both roundwood and residues was higher in the Midsouth. Since production has been increasing faster in the Midsouth, the difference can be expected to continue, and possibly to increase, in the next few years.

¹Now deceased.

Table 2.--Roundwood production in the South, by State and species group, 1979

State	All species	Softwood	Hardwood			
			Total	Gums	Oaks	Other hardwoods
----- Thousand cords -----						
Alabama	5,606.2	3,782.3	1,823.9	494.8	724.5	604.6
Arkansas	2,500.8	1,596.9	903.9	37.5	700.2	166.2
Florida	3,042.9	2,698.0	344.9	138.7	146.8	59.4
Georgia	6,205.4	5,506.0	699.4	267.2	288.1	144.1
Louisiana	3,284.4	2,410.3	874.1	72.6	355.3	446.2
Mississippi	4,397.9	2,855.6	1,542.3	188.5	639.9	713.9
North Carolina	2,701.1	1,604.7	1,096.4	454.7	419.8	221.9
Oklahoma	515.2	406.7	108.5	12.9	66.8	28.8
South Carolina	2,762.6	2,101.5	661.1	273.9	248.1	139.1
Tennessee	647.0	228.8	418.2	16.1	307.9	94.2
Texas	2,504.3	2,057.0	447.3	83.2	200.7	163.4
Virginia	1,638.5	891.8	746.7	71.1	366.4	309.2
All States	35,806.3	26,139.6	9,666.7	2,111.2	4,464.5	3,091.0

Table 3.--Roundwood production in the South, by State and species group, 1979 and 1978

State	Change from 1978	1979			1978		
		All species	Softwood	Hardwood	All species	Softwood	Hardwood
Percent		Thousand cords					
Alabama	+17	5,606.2	3,782.3	1,823.9	4,797.6	3,075.9	1,721.7
Arkansas	+7	2,500.8	1,596.9	903.9	2,332.4	1,447.3	885.1
Florida	+4	3,042.9	2,698.0	344.9	2,925.1	2,595.2	329.9
Georgia	+2	6,205.4	5,506.0	699.4	6,057.8	5,303.5	754.3
Louisiana	+3	3,284.4	2,410.3	874.1	3,181.8	2,366.3	815.5
Mississippi	+21	4,397.9	2,855.6	1,542.3	3,620.2	2,198.2	1,422.0
North Carolina	-8	2,701.1	1,604.7	1,096.4	2,925.7	1,674.4	1,251.3
Oklahoma	+48	515.2	406.7	108.5	348.8	243.4	105.4
South Carolina	+3	2,762.6	2,101.5	661.1	2,680.5	1,934.4	746.1
Tennessee	+39	647.0	228.8	418.2	466.4	203.9	262.5
Texas	-6	2,504.3	2,057.0	447.3	2,661.2	2,179.4	481.8
Virginia	-7	1,638.5	891.8	746.7	1,768.5	889.6	878.9
All States	+6	35,806.3	26,139.6	9,666.7	33,766.0	24,111.5	9,654.5

Pulping capacity increased by 7 percent to over 110,000 tons per day. Two mills came on stream in 1979, and many mill expansion and modernization projects were completed across the South (table 19). In addition to the 115 mills that operated in the South, 14 mills outside the territory used southern pulpwood (table 20). Most of the wood shipped out of the South was in the form of plant byproducts.

Only one mill was under construction in 1979. Located in Georgia (table 21), its estimated pulping capacity is about 880 tons per day.

As production of roundwood increases so does the number of counties with high output. Eleven counties across the South produced more than 200,000 cords of roundwood. Again Alabama led with five counties followed by Louisiana and Texas with two each. Texas's Polk County reported the largest production--over 342,000 cords. In all, 94 counties and parishes across the South had roundwood production of over 100,000 cords (tables 7-18). This widespread high production is made possible in part by the pine plantations established during the 1950's and early 1960's. These stands are now contributing to the fiber supply.

Table 4.--Southern output of wood residues for pulp manufacture,
by State and species group, 1979 and 1978

State	:	:	1979			:	1978			
	:	Change	:	:	:	:	:	:		
	:	from	:	All	Softwood	Hardwood	:	All	Softwood	Hardwood
	:	1978	:	species	:	:	:	species	:	:
:	:	:	:	:	:	:	:	:	:	:
	Percent	-	-	-	-	-	Thousand cords	-	-	-
Alabama	+2	2,614.7	2,145.1	469.6	2,556.2	2,218.4	337.8			
Arkansas	-3	1,568.3	1,269.2	299.1	1,615.6	1,373.3	242.3			
Florida	+6	790.1	699.4	90.7	745.7	653.2	92.5			
Georgia	+7	3,052.3	2,628.6	423.7	2,850.5	2,494.0	356.5			
Louisiana	+16	1,305.7	1,031.9	273.8	1,124.4	924.0	200.4			
Mississippi	+51	2,889.1	2,333.5	555.6	1,909.7	1,518.3	391.4			
North Carolina	+4	1,777.3	1,298.7	478.6	1,713.5	1,374.6	338.9			
Oklahoma	-90	27.3	23.5	3.8	264.9	245.0	19.9			
South Carolina	+10	1,781.5	1,421.7	359.8	1,626.5	1,352.2	274.3			
Tennessee	+39	308.4	26.2	282.2	221.5	40.2	181.3			
Texas	+1	1,386.1	1,244.9	141.1	1,371.4	1,211.9	159.5			
Virginia	+19	1,028.2	486.7	541.5	860.8	440.6	420.2			
All States	+10	18,528.9	14,609.4	3,919.5	16,860.7	13,845.7	3,015.0			

Table 5.--Southern output of wood residues for pulp manufacture by State and type
of residue, 1979

State	:	:	Chips			:	Other residues ¹			
	:	All	:	:	:	:	:	:		
	:	types	:	All	Softwood	Hardwood	:	All	Softwood	Hardwood
	:	:	:	species	:	:	:	species	:	:
	-	-	-	-	-	-	-	-	-	-
	Thousand cords									
Alabama	2,614.7	2,427.5	1,997.6	429.9	187.2	147.5	39.7			
Arkansas	1,568.3	1,316.3	1,079.0	237.3	252.0	190.2	61.8			
Florida	790.1	736.5	655.5	81.0	53.6	43.9	9.7			
Georgia	3,052.3	2,936.4	2,541.7	394.7	115.9	86.9	29.0			
Louisiana	1,305.7	1,248.2	1,017.7	230.5	57.5	14.2	43.3			
Mississippi	2,889.1	2,596.8	2,199.2	397.6	292.3	134.3	158.0			
North Carolina	1,777.3	1,668.8	1,210.5	458.3	108.5	88.2	20.3			
Oklahoma	27.3	27.3	23.5	3.8	--	--	--			
South Carolina	1,781.5	1,680.6	1,320.8	359.8	100.9	100.9	--			
Tennessee	308.4	269.2	13.8	255.4	39.2	12.4	26.8			
Texas	1,386.0	1,318.9	1,177.8	141.1	67.1	67.1	--			
Virginia	1,028.2	842.7	429.6	413.1	185.5	57.1	128.4			
All States	18,528.9	17,069.2	13,666.7	3,402.5	1,459.7	942.7	517.0			

¹ Veneer cores, pole and piling trim, cull material, sawdust, and secondary residues.

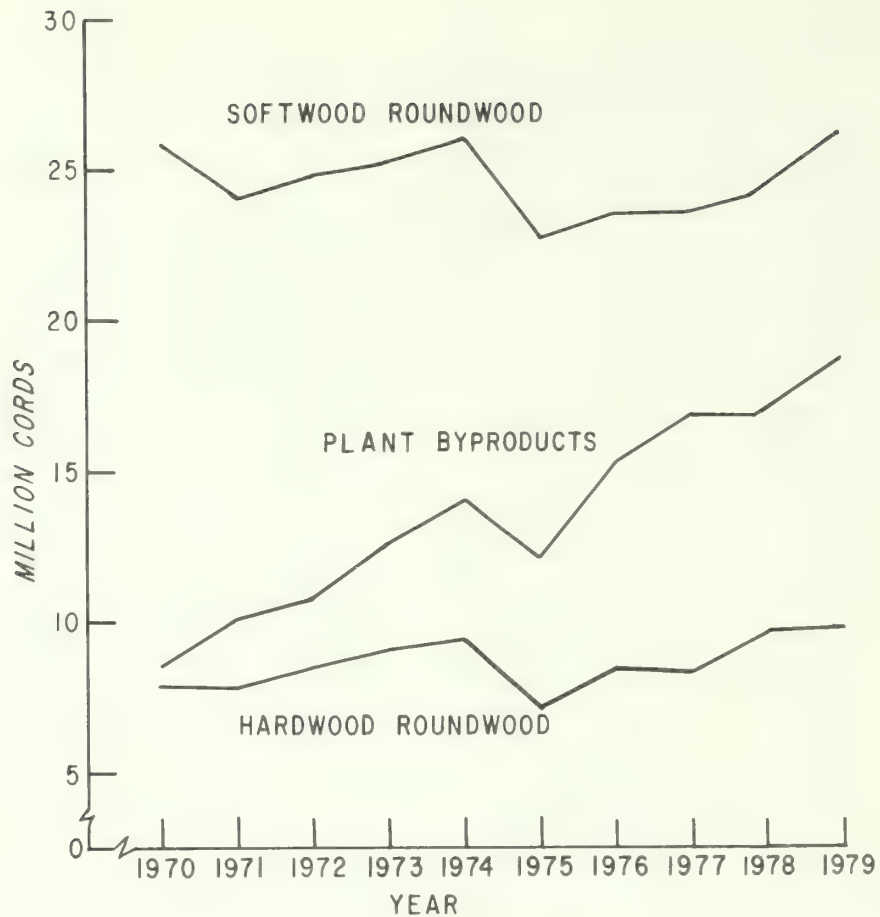


Figure 1.--Pulpwood production, 1970-1979.

Table 6.--Southern pulpwood production by Experiment Station territory, 1979

Station and source of wood	All species	Softwood	Hardwood
----- Standard cords -----			
Southeastern ¹			
Roundwood	16,350,543	12,802,149	3,548,394
Residues	8,429,568	6,535,211	1,894,357
Total	24,780,111	19,337,360	5,442,751
Southern ²			
Roundwood	19,455,791	13,337,541	6,118,250
Residues	10,099,462	8,074,350	2,025,112
Total	29,555,253	21,411,891	8,143,362
Both Stations			
Roundwood	35,806,334	26,139,690	9,666,644
Residues	18,529,030	14,609,561	3,919,469
Total	54,335,364	40,749,251	13,586,113

¹States of Florida, Georgia, North Carolina, South Carolina, and Virginia.

²States of Alabama, Arkansas, Louisiana, Mississippi, Oklahoma, Tennessee, and Texas.

Table 7.--Round pulpwood production in Alabama, 1979

County	All species	Softwood	Hardwood	County	All species	Softwood	Hardwood
- - - - Standard cords - - - -				- - - - Standard cords - - - -			
Autauga	60,623	38,225	22,398	Jackson	32,109	5,253	26,856
Baldwin	219,664	181,359	38,305	Jefferson	33,296	31,049	2,247
Barbour	107,657	71,959	35,698	Lamar	56,716	48,136	8,580
Bibb	86,198	59,761	26,437	Lauderdale	10,452	4,917	5,535
Blount	44,740	31,350	13,390	Lawrence	6,047	3,278	2,769
Bullock	79,393	61,928	17,465	Lee	99,029	93,367	5,662
Bulter	200,636	129,151	71,485	Limestone	6,670	1,166	5,504
Calhoun	54,389	50,405	3,984	Lowndes	93,307	60,445	32,862
Chambers	112,416	83,616	28,800	Macon	75,652	60,031	15,621
Cherokee	47,381	44,788	2,593	Madison	8,037	2,710	5,327
Chilton	79,239	50,030	29,209	Marengo	159,984	78,551	81,433
Choctaw	223,541	109,453	114,088	Marion	70,195	49,504	20,691
Clarke	214,539	110,175	104,364	Marshall	15,121	7,695	7,426
Clay	84,507	73,631	10,876	Mobile	204,323	181,052	23,271
Cleburne	55,527	49,816	5,711	Monroe	152,598	62,216	90,382
Coffee	77,306	45,915	31,391	Montgomery	81,301	47,304	33,997
Colbert	19,869	3,853	16,016	Morgan	10,902	3,092	7,810
Conecuh	134,191	67,363	66,828	Perry	67,048	37,090	29,958
Coosa	69,161	53,120	16,041	Pickens	70,326	34,726	35,600
Covington	114,523	75,530	38,993	Pike	141,122	91,538	49,584
Crenshaw	114,845	63,390	51,455	Randolph	123,768	101,312	22,456
Cullman	47,983	35,581	12,402	Russell	70,707	63,985	6,722
Dale	75,749	39,900	35,849	St. Clair	80,813	71,759	9,054
Dallas	101,646	38,931	62,715	Shelby	87,561	76,635	10,926
De Kalb	40,461	17,756	22,705	Sumter	62,547	32,791	29,756
Elmore	61,713	49,303	12,410	Talledega	98,382	87,190	11,192
Escambia	80,652	55,190	25,462	Tallapoosa	129,048	102,387	26,661
Etowah	26,250	20,700	5,550	Tuscaloosa	36,817	28,092	8,725
Fayette	62,960	56,465	6,495	Walker	122,460	110,659	11,801
Franklin	45,922	26,068	19,854	Washington	147,999	92,717	55,282
Geneva	25,589	13,096	12,493	Wilcox	166,472	76,314	90,158
Greene	48,324	28,467	19,857	Winston	104,785	88,521	16,264
Hale	45,616	21,604	24,012				
Henry	78,749	58,297	20,452				
Houston	38,608	30,565	8,043	All counties	5,606,161	3,782,223	1,823,938

Table 8.--Round pulpwood production in Arkansas, 1979

County ¹	All species	Softwood	Hardwood	County ¹	All species	Softwood	Hardwood
Standard cords				Standard cords			
Arkansas	187	0	187	Little River	73,697	51,630	22,067
Ashley	312,557	153,173	159,384	Logan	18,262	12,876	5,386
Baxter	2,039	1,742	297	Lonoke	105	89	16
Bradley	125,860	46,534	79,326	Marion	1	0	1
Calhoun	60,055	43,368	16,687	Miller	33,546	18,907	14,639
Carroll	19	19	0	Montgomery	14,593	7,491	7,102
Chicot	2,451	66	2,385	Nevada	88,530	66,373	22,157
Clark	73,241	36,843	36,398	Newton	26	16	10
Cleburne	12,643	10,326	2,317	Ouachita	74,734	50,315	24,419
Cleveland	52,775	25,337	27,438	Perry	9,786	7,437	2,349
Columbia	111,979	89,822	22,157	Phillips	1,432	0	1,432
Conway	12,589	8,633	3,956	Pike	161,311	132,258	29,053
Crittenden	1,895	0	1,895	Poinsett	4	4	0
Dallas	62,686	26,286	36,400	Polk	61,125	42,639	18,486
Desha	7,278	2	7,276	Pope	23,367	10,083	13,284
Drew	108,710	67,685	41,025	Prairie	47	4	43
Faulkner	3,300	3,203	97	Pulaski	52,966	31,419	21,547
Franklin	3,379	2,554	825	St. Francis	6	2	4
Fulton	987	970	17	Saline	49,517	26,669	22,848
Garland	19,920	16,634	3,286	Scott	43,304	32,017	11,287
Grant	103,611	53,944	49,667	Searcy	20	2	18
Hempstead	121,865	94,630	27,235	Sebastian	3,996	2,772	1,224
Hot Spring	52,031	26,669	25,362	Sevier	53,846	36,990	16,856
Howard	137,274	156,163	31,111	Stone	1,615	1,314	301
Independence	6,365	3,942	2,423	Union	75,345	52,200	23,145
Izard	4,044	3,605	439	Van Buren	13,964	8,868	5,096
Jackson	135	73	62	White	8,941	5,089	3,852
Jefferson	42,653	34,558	8,095	Woodruff	4	4	0
Johnson	13,517	5,299	8,218	Yell	21,607	13,434	8,173
Lafayette	55,592	36,841	18,751	All counties	2,500,836	1596,876	903,960
Lee	3	3	0				
Lincoln	53,499	37,050	16,449				

¹ Counties with no pulpwood production are omitted.

Table 9.--Round pulpwood production in Florida, 1979

County ¹	All species	Softwood	Hardwood	County ¹	All species	Softwood	Hardwood
- - - - Standard cords - - - -				- - - - Standard cords - - - -			
Alachua	98,122	85,114	13,008	Lake	2,523	2,523	0
Baker	110,078	109,842	236	Lee	2,776	2,776	0
Bay	45,121	44,836	285	Leon	29,336	25,434	3,902
Bradford	86,598	84,085	2,513	Levy	188,553	132,378	56,175
Brevard	4,990	4,990	0	Liberty	42,324	30,180	12,144
Calhoun	122,270	116,345	5,925	Madison	96,845	70,009	26,836
Charlotte	2,142	2,142	0	Manatee	675	675	0
Citrus	2,151	2,151	0	Marion	115,946	106,833	9,113
Clay	57,508	51,335	6,173	Nassau	163,894	153,112	10,782
Collier	0	0	0	Okaloosa	21,140	19,973	1,167
Columbia	127,669	123,733	3,936	Orange	7,669	7,669	0
De Sota	1,488	1,488	0	Osceola	3,831	3,831	0
Dixie	114,790	60,833	53,957	Pasco	935	354	581
Duval	41,181	40,218	963	Polk	8,972	8,972	0
Escambia	50,460	49,467	993	Putnam	77,656	66,656	11,000
Flagler	75,773	65,058	10,715	St. Johns	132,891	122,732	10,159
Franklin	53,217	53,147	70	Santa Rosa	50,783	49,426	1,357
Gadsden	36,897	28,021	8,876	Sarasota	9,390	9,390	0
Gilchrist	75,527	70,511	5,016	Seminole	388	388	0
Glades	256	256	0	Sumter	16,104	16,104	0
Gulf	70,731	70,547	184	Suwannee	123,021	116,755	6,266
Hamilton	60,410	55,497	4,913	Taylor	136,524	123,319	13,205
Hardee	5,783	5,783	0	Union	31,725	31,553	172
Hendry	9,000	9,000	0	Volusia	56,705	51,705	5,000
Hernando	3,013	2,763	250	Wakulla	65,324	63,326	1,998
Highlands	613	613	0	Walton	76,247	58,278	17,969
Hillsborough	3,356	3,356	0	Washington	43,312	39,374	3,938
Holmes	58,270	50,970	7,300				
Jackson	104,193	88,144	16,049	All counties	3,042,860	2,698,019	344,841
Jefferson	75,331	67,616	7,715				
Lafayette	40,433	36,433	4,000				

¹ Counties with no pulpwood production are omitted.

Table 10.--Round pulpwood production in Georgia, 1979

County	All species	Softwood	Hardwood	County	All species	Softwood	Hardwood
- - - - Standard cords - - - -				- - - - Standard cords - - - -			
Appling	89,209	82,157	7,052	Fannin	10,110	7,330	2,780
Atkinson	63,814	62,332	1,482	Fayette	13,073	12,654	419
Bacon	99,521	92,836	6,685	Floyd	76,351	69,691	6,660
Baker	22,047	21,644	403	Forsyth	8,651	8,133	518
Baldwin	35,750	29,512	6,238	Franklin	34,878	24,901	9,977
Banks	9,337	9,337	0	Fulton	27,233	26,509	724
Barrow	35,265	34,856	409	Gilmer	7,654	6,679	975
Bartow	30,829	29,033	1,796	Glascok	1,138	324	814
Ben Hill	95,700	87,494	8,206	Glynn	84,716	58,492	26,224
Berrien	50,788	49,892	896	Gordon	54,584	52,953	1,631
Bibb	11,126	9,366	1,760	Grady	33,725	25,830	7,895
Bleckley	7,260	6,885	375	Greene	52,686	45,978	6,708
Brantley	113,206	109,719	3,487	Gwinnett	19,046	17,781	1,265
Brooks	28,681	26,217	2,464	Habersham	4,720	4,443	277
Bryan	36,295	33,128	3,167	Hall	12,092	11,708	384
Bulloch	29,893	22,668	7,225	Hancock	39,677	32,126	7,551
Burke	161,752	138,737	23,015	Haralson	38,581	35,765	2,816
Butts	43,496	41,250	2,246	Harris	66,504	64,786	1,718
Calhoun	38,351	30,295	8,056	Hart	3,851	3,851	0
Camden	80,222	61,862	18,360	Heard	23,231	20,712	2,519
Candler	17,045	14,207	2,838	Henry	41,735	39,468	2,267
Carroll	54,023	48,888	5,135	Houston	36,273	32,316	3,957
Catoosa	6,160	5,276	884	Irwin	2,040	2,040	0
Charlton	65,257	64,474	783	Jackson	30,366	29,260	1,106
Chatham	11,262	8,519	2,743	Jasper	44,351	43,591	760
Chattahoochee	35,102	31,069	4,033	Jeff Davis	44,441	36,749	7,692
Chattooga	35,683	31,685	3,998	Jefferson	30,176	26,357	3,819
Cherokee	43,814	40,772	3,042	Jenkins	33,999	31,567	2,432
Clarke	3,149	2,325	824	Johnson	32,254	30,485	1,769
Clay	25,902	19,020	6,882	Jones	44,300	41,578	2,722
Clayton	784	784	0	Lamar	19,740	19,260	480
Clinch	116,619	115,981	638	Lanier	4,543	4,543	0
Cobb	16,797	16,411	386	Laurens	158,764	128,695	30,069
Coffee	96,595	89,837	6,758	Lee	22,763	21,157	1,606
Colquitt	28,913	27,132	1,781	Liberty	98,010	83,318	14,692
Columbia	11,527	10,397	1,130	Lincoln	26,251	22,448	3,803
Cook	7,774	7,763	11	Long	56,639	48,892	7,747
Coweta	68,227	65,442	2,785	Lowndes	39,310	38,868	442
Crawford	124,316	104,516	19,800	Lumpkin	8,896	7,810	1,086
Crisp	33,831	32,857	974	McDuffie	15,550	13,772	1,778
Dade	1,770	1,654	116	McIntosh	33,901	31,343	2,558
Dawson	5,335	4,749	586	Macon	34,895	28,373	6,522
Decatur	106,438	82,643	23,795	Madison	10,571	8,936	1,635
De Kalb	4,501	4,414	87	Marion	36,931	31,218	5,713
Dodge	94,022	82,108	11,914	Meriwether	100,507	91,008	9,499
Dooly	16,072	16,072	0	Miller	12,320	10,546	1,774
Dougherty	27,356	22,752	4,604	Mitchell	58,112	54,981	3,131
Douglas	20,190	19,051	1,139	Monroe	37,522	36,091	1,431
Early	61,885	50,967	10,918	Montgomery	5,322	4,261	1,061
Echols	34,534	34,391	143	Morgan	26,434	25,373	1,061
Effingham	43,658	36,848	6,810	Murray	36,532	33,292	3,240
Elbert	40,351	30,825	9,526	Muscogee	4,807	4,057	750
Emanuel	53,379	52,482	897				
Evans	15,427	9,868	5,559				

Continued

Table 10.--Round pulpwood production in Georgia, 1979--Continued

County ¹	All species	Softwood	Hardwood	County ¹	All species	Softwood	Hardwood
- - - - Standard cords - - - -				- - - - Standard cords - - - -			
Lewton	27,063	26,895	168	Tattnall	35,588	28,388	7,200
Oconee	11,150	10,379	771	Taylor	29,350	24,966	4,384
Oglethorpe	42,418	25,105	17,313	Telfair	64,768	60,627	4,141
Oquawba				Terrell	37,518	35,144	2,374
Oswald				Thomas	43,510	38,499	5,011
Ozark				Tift	15,259	14,595	664
Peach	6,751	6,751	0	Toombs	33,746	28,877	4,869
Peach	22,953	22,066	887	Towns	12,682	9,460	3,222
Peach	88,291	74,837	13,454	Treutlen	19,642	18,256	1,386
Peach	49,257	47,555	1,702	Troup	94,328	89,909	4,419
Peach	27,848	24,141	3,707	Turner	4,985	3,985	1,000
Peach	33,590	31,157	2,433	Twiggs	37,685	35,430	2,255
Peach	43,056	41,021	2,035				
Peach				Union	6,377	5,110	1,267
Peach	35,182	28,984	6,198	Upson	33,407	31,819	1,588
Peach							
Peach	2,659	335	2,324	Walker	15,985	15,154	831
Peach	72,318	53,025	19,293	Walton	26,711	22,485	4,226
Peach	22,544	19,751	2,793	Ware	104,302	90,274	14,028
Peach	584	584	0	Warren	64,996	58,706	6,290
Peach				Washington	44,088	37,513	6,575
Peach	22,088	19,138	2,950	Wayne	111,776	101,614	10,162
Peach	13,769	9,827	3,942	Webster	28,705	24,161	4,544
Peach	16,275	13,900	2,375	Wheeler	65,697	63,407	2,290
Peach	18,988	18,054	934	White	1,474	1,372	102
Peach	9,901	5,714	4,187	Whitfield	18,905	16,576	2,329
Peach	128,263	111,154	17,109	Wilcox	40,353	39,251	1,102
Peach	28,925	25,069	3,856	Wilkes	55,516	38,412	17,104
Peach				Wilkinson	46,573	42,210	4,363
Peach	74,097	67,958	6,139	Worth	57,600	53,671	3,929
Peach	17,386	10,006	7,380				
Peach				All counties	6,205,383	5,505,965	699,418

Table 11.--Round pulpwood production in Louisiana, 1979

Parish ¹	All species	Softwood	Hardwood	Parish ¹	All species	Softwood	Hardwood
- - - - Standard cords - - - -				- - - - Standard cords - - - -			
Acadia	1,163	770	393	Madison	25,398	32	25,366
Allen	80,619	69,958	10,661	Morehouse	51,946	22,478	29,468
Ascension	2,060	0	2,060	Natchitoches	119,504	113,317	6,187
Assumption	621	0	621	Ouachita	47,947	28,408	19,539
Avoyelles	10,640	2,865	7,775	Pointe Coupee	19,918	0	19,918
Beauregard	233,146	229,552	3,594	Rapides	177,330	110,764	66,566
Bienville	195,457	166,413	29,044	Red River	30,920	21,548	9,372
Bossier	77,508	65,446	12,062	Richland	3,261	623	2,638
Caddo	33,563	24,598	8,965	Sabine	152,607	136,151	16,456
Calcasieu	22,628	21,749	879	St. Helena	63,816	51,117	12,699
Caldwell	76,880	33,700	43,180	St. Landry	44,683	20	44,663
Catahoula	57,641	19,474	38,167	St. Martin	95	4	91
Caliborne	115,845	98,753	17,092	St. Mary	3	3	0
Concordia	80,579	0	80,579	St. Tammany	41,731	40,862	869
De Soto	102,325	79,151	23,174	Tangipahoa	62,527	51,532	10,995
East Baton Rouge	5,469	543	4,926	Tensas	45,293	7	45,286
East Carroll	3,751	0	3,751	Union	189,309	136,872	52,437
East Feliciana	27,322	18,086	9,236	Vermilion	30	0	30
Evangeline	17,851	14,106	3,745	Vernon	229,664	218,885	10,779
Franklin	4,224	177	4,047	Washinton	71,794	66,803	4,991
Grant	71,519	4,6574	24,945	Webster	58,838	45,370	13,468
Iberia	27	0	27	West Baton Rouge	2,633	0	2,633
Iberville	1,268	0	1,268	West Carroll	1,119	137	982
Jackson	125,061	93,256	31,805	West Feliciana	9,394	1,433	7,961
Jefferson Davis	6,910	6,491	419	Winn	149,555	111,543	38,012
Lafayette	8	0	8	All parishes	3,284,432	2,410,307	874,125
La Salle	123,239	92,021	31,218				
Lincoln	130,527	111,784	18,743				
Livingston	77,266	56,931	20,335				

¹ Parishes with no pulpwood production are omitted.

Table 12.--Round pulpwood production in Mississippi, 1979

County ¹	All species	Softwood	Hardwood	County ¹	All species	Softwood	Hardwood
Standard cords				Standard cords			
Adams	33,355	227	33,128	Lowndes	5,576	4,264	1,312
Alcorn	19,847	13,984	5,863	Madison	42,344	27,002	15,342
Amite	132,315	111,127	21,188	Marion	49,673	36,545	13,128
Attala	146,091	98,087	48,004	Marshall	31,123	24,913	6,210
Benton	26,349	17,474	8,875	Monroe	26,525	23,603	2,922
Bolivar	6,480	0	6,480	Montgomery	36,251	17,725	18,526
Calhoun	62,432	21,387	41,045	Neshoba	112,798	75,753	37,045
Carroll	42,632	21,433	21,199	Newton	95,797	50,501	45,296
Chickasaw	30,873	25,113	5,760	Noxubee	66,756	38,244	28,512
Choctaw	66,717	44,328	22,389	Oktibbeha	38,893	22,369	16,524
Claiborne	66,636	40,947	25,689	Panola	11,805	7,856	3,949
Clarke	140,009	88,009	52,000	Pearl River	98,286	89,314	8,972
Clay	13,876	9,002	4,874	Perry	141,295	119,784	21,511
Coahoma	4	1	3	Pike	92,207	67,611	24,596
Copiah	124,059	79,313	44,746	Pontotoc	42,499	33,798	8,701
Covington	43,507	19,647	23,860	Prentiss	40,695	23,291	17,404
De Soto	8	5	3	Quitman	26	24	2
Forrest	62,378	40,604	21,774	Rankin	96,734	71,403	25,331
Franklin	55,246	35,590	19,656	Scott	71,013	49,347	21,666
George	57,093	31,104	25,989	Sharkey	733	93	640
Greene	145,313	90,999	54,314	Simpson	88,255	54,747	33,508
Grenada	20,573	12,594	7,979	Smith	63,490	48,123	15,367
Hancock	24,248	22,515	1,733	Stone	51,960	39,224	12,736
Harrison	45,224	43,394	1,830	Sunflower	588	4	584
Hinds	42,937	15,070	27,867	Tallahatchie	496	327	169
Holmes	75,779	47,272	28,507	Tate	407	45	362
Humphreys	234	98	136	Tippah	43,746	34,371	9,375
Issaquena	19,300	962	18,338	Tishomingo	48,283	36,281	12,002
Itawamba	57,053	44,273	12,780	Tunica	1,057	74	983
Jackson	40,064	37,170	2,894	Union	15,661	14,275	1,386
Jasper	121,629	78,201	43,428	Walthall	22,571	12,905	9,666
Jefferson	43,170	16,396	26,774	Warren	18,798	696	18,102
Jefferson Davis	34,531	30,733	3,798	Washington	10,381	119	10,262
Jones	80,238	41,357	38,881	Wayne	150,405	69,731	80,674
Kemper	104,317	59,453	44,864	Webster	56,101	37,238	18,863
Lafayette	68,725	46,610	22,115	Wilkinson	55,727	11,796	43,931
Lamar	39,464	28,740	10,724	Winston	102,554	91,395	11,159
Lauderdale	109,174	62,178	46,996	Yalobusha	27,424	20,942	6,482
Lawrence	92,419	63,752	28,667	Yazoo	12,590	5,611	6,979
Leake	89,774	61,882	27,892				
Lee	14,784	9,527	5,257				
Leflore	3,063	2,141	922				
Lincoln	124,454	81,571	42,883	All counties	4,397,897	2,855,614	1,542,283

¹Counties with no pulpwood production are omitted.

Table 13.--Round pulpwood production in North Carolina, 1979

County	All species	Softwood	Hardwood	County	All species	Softwood	Hardwood
Standard cords				Standard cords			
Alamance	15,611	12,123	3,488	Lee	23,876	16,980	6,896
Alexander	11,677	7,812	3,865	Lenoir	24,279	17,634	6,645
Alleghany	433	85	348	Lincoln	22,255	18,999	3,256
Anson	84,296	56,663	27,633	McDowell	13,220	4,641	8,579
Ashe	10	10	0	Macon	321	27	294
Avery	217	0	217	Madison	470	101	369
Beaufort	99,134	58,190	40,944	Martin	36,858	22,908	13,950
Bertie	87,673	38,243	49,430	Mecklenburg	6,804	6,148	656
Bladen	81,160	48,701	32,459	Mitchell	2,531	0	2,531
Brunswick	102,014	74,577	27,437	Montgomery	30,258	19,442	10,816
Buncombe	6,044	1,506	4,538	Moore	31,453	22,497	8,956
Burke	23,048	13,696	9,352	Nash	24,238	9,362	14,876
Cabarrus	9,189	6,215	2,974	New Hanover	5,371	4,684	687
Caldwell	9,544	3,309	6,235	Northampton	56,537	19,573	36,964
Camden	3,958	761	3,197	Onslow	54,252	47,440	6,812
Carteret	34,149	30,341	3,808	Orange	15,954	11,546	4,408
Caswell	10,240	1,637	8,603	Pamlico	29,713	20,914	8,799
Catawba	7,727	6,961	766	Pasquotank	17,557	9,397	8,160
Chatham	61,895	34,118	27,777	Pender	48,651	34,751	13,900
Cherokee	18,067	8,573	9,494	Perquimans	22,404	8,040	14,364
Chowan	16,110	6,415	9,695	Person	10,677	3,250	7,427
Clay	3,618	2,621	997	Pitt	28,412	13,823	14,589
Cleveland	15,394	9,993	5,401	Polk	17,198	9,581	7,617
Columbus	74,806	42,836	31,970	Randolph	7,169	5,235	1,934
Craven	203,231	131,146	72,085	Richmond	31,966	20,983	10,983
Cumberland	19,616	11,923	7,693	Robeson	29,760	15,702	14,058
Currituck	3,793	725	3,068	Rockingham	8,727	3,872	4,855
Dare	4,369	3,085	1,284	Rowan	12,608	6,324	6,284
Davidson	11,769	8,543	3,226	Rutherford	63,040	40,698	22,342
Davie	4,836	2,570	2,266	Sampson	73,195	48,475	24,720
Duplin	61,297	40,059	21,238	Scotland	36,793	32,557	4,236
Durham	13,577	3,719	9,858	Stanly	14,559	8,597	5,962
Edgecombe	22,645	11,859	10,786	Stokes	2,945	130	2,815
Forsyth	4,068	3,326	742	Surry	2,289	732	1,557
Franklin	63,156	36,222	26,934	Swain	5,867	3,123	2,744
Gaston	10,302	9,122	1,180	Transylvania	9,971	560	9,411
Gates	31,126	15,471	15,655	Tyrrell	18,379	13,262	5,117
Graham	678	559	119	Union	28,371	19,396	8,975
Granville	50,301	28,830	21,471	Vance	3,133	1,888	1,245
Greene	7,564	3,099	4,465	Wake	78,982	50,862	28,120
Guilford	10,160	7,809	2,351	Warren	41,615	27,065	14,550
Halifax	92,088	47,816	44,272	Washington	27,807	12,810	14,997
Harnett	17,749	10,038	7,711	Watauga	14	3	11
Haywood	9,156	2,238	6,918	Wayne	18,897	8,258	10,639
Henderson	5,559	816	4,743	Wilkes	16,074	10,416	5,658
Hertford	39,675	16,974	22,701	Wilson	50,481	18,136	32,345
Hoke	7,800	6,871	929	Yadkin	5,124	3,739	1,385
Hyde	25,953	14,614	11,339	Yancey	1,417	32	1,385
Iredell	21,130	18,075	3,055	All counties	2,701,143	1,604,781	1,096,362
Jackson	6,199	78	6,121				
Johnston	38,000	9,772	28,228				
Jones	26,860	19,443	7,417				

Table 14.--Round pulpwood production in Oklahoma, 1979

County ¹	All species	Softwood	Hardwood
- - - - Standard cords - - - -			
Cherokee	988	20	968
Choctaw	23,076	17,616	5,460
Delaware	300	0	300
Haskell	16	16	0
Latimer	3,826	2,650	1,176
Le Flore	80,228	65,543	14,685
McCurtain	259,580	206,372	53,208
McIntosh	7	7	0
Mayes	4,600	0	4,600
Pushmataha	142,074	114,492	27,582
Rogers	200	0	200
Wagoner	300	0	300
All counties	515,195	406,716	108,479

¹Counties with no pulpwood production are omitted.

Table 15.--Round pulpwood production in South Carolina, 1979

County	All species	Softwood	Hardwood	County	All species	Softwood	Hardwood
- - - - Standard cords - - - -				- - - - Standard cords - - - -			
Abbeville	76,376	60,427	15,949	Jasper	47,729	31,167	16,562
Aiken	88,556	83,913	4,643	Kershaw	130,952	119,077	11,875
Allendale	25,970	20,217	5,753	Lancaster	60,640	44,554	16,086
Anderson	63,220	51,414	11,806	Laurens	77,122	67,462	9,660
Bamberg	26,121	18,612	7,509	Lee	13,567	10,902	2,665
Barnwell	24,685	24,584	101	Lexington	63,161	59,130	4,031
Beaufort	23,252	12,518	10,734	McCormick	113,878	103,611	10,267
Berkeley	53,307	35,812	17,495	Marion	31,106	13,573	17,533
Calhoun	4,371	3,445	926	Marlboro	23,332	6,810	16,522
Charleston	37,551	18,764	18,787	Newberry	110,478	80,785	29,693
Cherokee	19,681	16,916	2,765	Oconee	42,090	31,031	11,059
Chester	119,187	101,606	17,581	Orangeburg	61,744	55,789	5,955
Chesterfield	96,260	74,336	21,924	Pickens	34,855	23,543	11,312
Clarendon	37,096	30,393	6,703	Richland	77,810	68,228	9,582
Colleton	57,532	23,063	34,469	Saluda	63,653	52,134	11,519
Darlington	32,577	15,033	17,544	Spartanburg	48,672	41,887	6,785
Dillon	23,196	11,723	11,473	Sumter	34,681	30,603	4,078
Dorchester	43,512	15,726	27,786	Union	85,705	63,874	21,831
Edgefield	89,882	69,652	20,230	Williamsburg	68,122	42,236	25,886
Fairfield	130,014	107,329	22,685	York	90,308	64,390	25,918
Florence	37,053	18,700	18,353	All counties	2,762,609	2,101,528	661,081
Georgetown	93,150	75,826	17,324				
Greenville	14,953	11,742	3,211				
Greenwood	90,109	76,135	13,974				
Hampton	83,689	53,105	30,584				
Jorry	91,704	59,751	31,953				

Table 16.--Round pulpwood production in Tennessee, 1979

County ¹	All species	Softwood	Hardwood	County ¹	All species	Softwood	Hardwood
- - - - Standard cords - - - -				- - - - Standard cords - - - -			
Anderson	12,204	5,300	6,904	Jefferson	714	605	109
Benton	4,646	66	4,580	Johnson	2,618	0	2,618
Bledsoe	16,175	3,933	12,242	Knox	5,145	4,526	619
Blount	6,294	4,184	2,110	Lauderdale	104	28	76
Bradley	30,761	25,772	4,989	Lawrence	15,560	8,251	7,309
Campbell	1,277	404	873	Lewis	6,625	1,661	4,964
Carroll	3,482	124	3,358	Loudon	3,768	1,830	1,938
Carter	5,746	0	5,746	McMinn	19,480	16,712	2,768
Chester	8,489	3,996	4,493	McNairy	11,092	9,796	1,296
Claiborne	808	808	0	Macon	8,071	0	8,071
Clay	4,541	0	4,541	Madison	270	270	0
Cocke	4,158	1,504	2,654	Marion	6,437	0	6,437
Coffee	8,974	4,134	4,840	Meigs	14,836	11,846	2,990
Crockett	3	0	3	Monroe	23,603	18,410	5,193
Cumberland	17,061	7,740	9,321	Montgomery	3,567	1,929	1,638
Davidson	1,255	0	1,255	Morgan	11,361	5,230	6,131
Decatur	2,248	2,177	71	Perry	4,857	136	4,721
Dickson	186	0	186	Pickett	11,737	3	11,734
Dyer	12	3	9	Polk	9,537	7,512	2,025
Fayette	13	13	0	Putnam	14,593	0	14,593
Fentress	6,733	0	6,733	Rhea	12,386	6,555	5,831
Franklin	9,679	0	9,679	Roane	16,010	3,285	12,725
Gibson	2,830	2,825	5	Rutherford	5,703	5,703	0
Giles	12,114	2,507	9,607	Scott	13,010	7,731	5,279
Grainger	161	161	0	Sequatchie	7,804	781	7,023
Greene	7,125	1,214	5,911	Sevier	445	372	73
Grundy	13,587	4,124	9,463	Shelby	1	1	0
Hamblen	765	92	673	Stewart	418	0	418
Hamilton	7,372	5,583	1,789	Sullivan	5,600	0	5,600
Hancock	1,972	8	1,964	Tipton	14	14	0
Hardeman	9,799	5,305	4,494	Union	678	242	436
Hardin	18,811	5,867	12,944	Warren	5,056	216	4,840
Hawkins	21,112	2,521	18,591	Washington	1,600	0	1,600
Henderson	5,047	3,232	1,815	Wayne	82,752	21,213	61,539
Henry	2,475	4	2,471	Weakley	3,968	62	3,906
Hickman	20,051	278	19,773	White	8,317	0	8,317
Houston	3	0	3	All counties	647,018	228,799	418,219
Humphreys	41,312	0	41,312				

¹Counties with no pulpwood production are omitted.

Table 17.--Round pulpwood production in Texas, 1979

County ¹	All species	Softwood	Hardwood	County	All species	Softwood	Hardwood
- - - - Standard cords - - - -				- - - - Standard cords - - - -			
Anderson	38,979	37,485	1,494	Montgomery	42,828	37,945	4,883
Angelina	57,545	50,342	7,203	Morris	20,690	16,673	4,017
Bowie	58,151	36,920	21,231	Nacogdoches	75,885	57,585	18,300
Camp	20,541	15,978	4,563	Newton	144,042	104,599	39,443
Cass	137,693	106,311	31,382	Orange	17,695	11,266	6,429
Chambers	210	204	6	Panola	110,440	98,453	11,987
Cherokee	97,521	88,300	9,221	Polk	342,985	301,229	41,756
Franklin	3,638	3,096	542	Rains	83	83	0
Gregg	2,985	2,226	759	Red River	17,249	11,909	5,340
Grimes	11,277	10,924	353	Rusk	65,825	53,086	12,739
Hardin	111,306	79,430	31,876	Sabine	52,562	42,142	10,420
Harris	1,405	866	539	San Augustine	44,703	35,023	9,680
Harrison	66,493	54,006	12,487	San Jacinto	58,264	53,111	5,153
Henderson	8	8	0	Shelby	114,820	104,450	10,370
Hopkins	22	0	22	Smith	29,331	26,372	2,959
Houston	66,874	57,831	9,043	Titus	3,226	2,306	920
Junt	3	3	0	Trinity	248,804	245,958	2,846
Kasper	130,213	101,478	28,735	Tyler	110,378	65,599	44,779
Jefferson	958	634	324	Upshur	52,026	47,103	4,923
Leon	75	75	0	Walker	31,635	25,694	5,941
Liberty	30,881	18,186	12,695	Wood	8,161	6,033	2,128
Ladison	91	91	0	All counties	2,504,252	2,057,006	447,246
Larion	75,751	45,993	29,758				

¹ Counties with no pulpwood production are omitted.

Table 18.--Round pulpwood production in Virginia, 1979

County ¹	All species	Softwood	Hardwood	County ¹	All species	Softwood	Hardwood
- - - - Standard cords - - - -				- - - - Standard cords - - - -			
Accomack	13,761	13,613	148	Lancaster	3,797	1,882	1,915
Albemarle	35,003	21,963	13,040	Lee	3,930	5	3,925
Alleghany	15,501	3,037	12,464	Loudoun	529	251	278
Amelia	33,306	17,927	15,379	Louisa	16,466	13,635	2,831
Amherst	39,072	12,638	26,434	Lunenburg	24,702	13,188	11,514
Appomattox	62,837	46,759	16,078	Madison	1,258	927	331
Augusta	14,782	2,121	12,661	Mathews	817	531	286
Bath	12,388	732	11,656	Mecklenburg	52,315	30,244	22,071
Bedford	55,946	22,662	33,284	Middlesex	6,752	4,660	2,092
Bland	17	0	17	Montgomery	21	0	21
Botetourt	19,885	4,466	15,419	Nelson	50,074	20,006	30,068
Brunswick	70,155	44,100	26,055	New Kent	20,497	12,133	8,364
Buchanan	34	5	29	Newport News	5	5	0
Buckingham	113,679	54,491	59,188	Northampton	3,709	502	3,207
Campbell	69,741	50,191	19,550	Northumberland	1,257	485	772
Caroline	19,270	14,504	4,766	Nottoway	27,755	14,030	13,725
Carroll	15	9	6	Orange	5,021	3,143	1,878
Charles City	14,016	4,013	10,003	Page	6	6	0
Charlotte	50,668	28,267	22,401	Patrick	1,890	1,206	684
Chesapeake	3,752	3,405	347	Pittsylvania	86,875	71,322	15,553
Chesterfield	6,026	4,816	1,210	Powhatan	13,767	7,341	6,426
Clarke	18	18	0	Prince Edward	57,356	34,512	22,844
Craig	10,291	2,863	7,428	Prince George	16,005	6,135	9,870
Culpeper	954	869	85	Prince William	6,444	3,955	2,489
Cumberland	39,436	25,625	13,811	Pulaski	2,909	224	2,685
Dickenson	4	0	4	Rappahannock	48	31	17
Dinwiddie	24,219	11,992	12,227	Richmond	4,263	2,669	1,594
Essex	9,783	8,408	1,375	Roanoke	116	3	113
Fairfax	3,077	2,588	489	Rockbridge	26,914	5,600	21,314
Fauquier	2,342	1,900	442	Rockingham	2,071	563	1,508
Floyd	2,996	47	2,949	Russell	326	0	326
Fluvanna	23,520	14,849	8,671	Scott	7,064	0	7,064
Franklin	34,365	22,294	12,071	Shenandoah	2,676	1,538	1,138
Frederick	7,365	6,001	1,364	Smyth	4,239	0	4,239
Giles	5	2	3	Southampton	45,974	13,678	32,296
Gloucester	6,503	4,006	2,497	Spotsylvania	17,233	10,574	6,659
Goochland	13,269	10,064	3,205	Stafford	1,035	811	224
Grayson	3	0	3	Suffolk	20,755	7,860	12,895
Greene	733	664	69	Surry	24,490	5,652	18,838
Greensville	26,325	10,596	15,729	Sussex	31,498	18,862	12,636
Halifax	39,521	20,704	18,817	Tazewell	4	4	0
Hanover	9,395	6,804	2,591	Virginia Beach	4,143	2,351	1,792
Henrico	1,666	766	900	Warren	923	911	12
Henry	23,032	19,024	4,008	Washington	3,804	0	3,804
Highland	2,557	39	2,518	Westmoreland	2,472	2,199	273
Isle of Wight	17,939	6,125	11,814	Wise	6,847	0	6,847
James City	6,459	1,856	4,603	Wythe	3,260	0	3,260
King and Queen	54,670	39,938	14,732	York	1,285	576	709
King George	2,334	2,046	288	All counties	1,638,548	891,856	746,692
King William	10,316	7,839	2,477				

¹Counties with no pulpwood production are omitted.

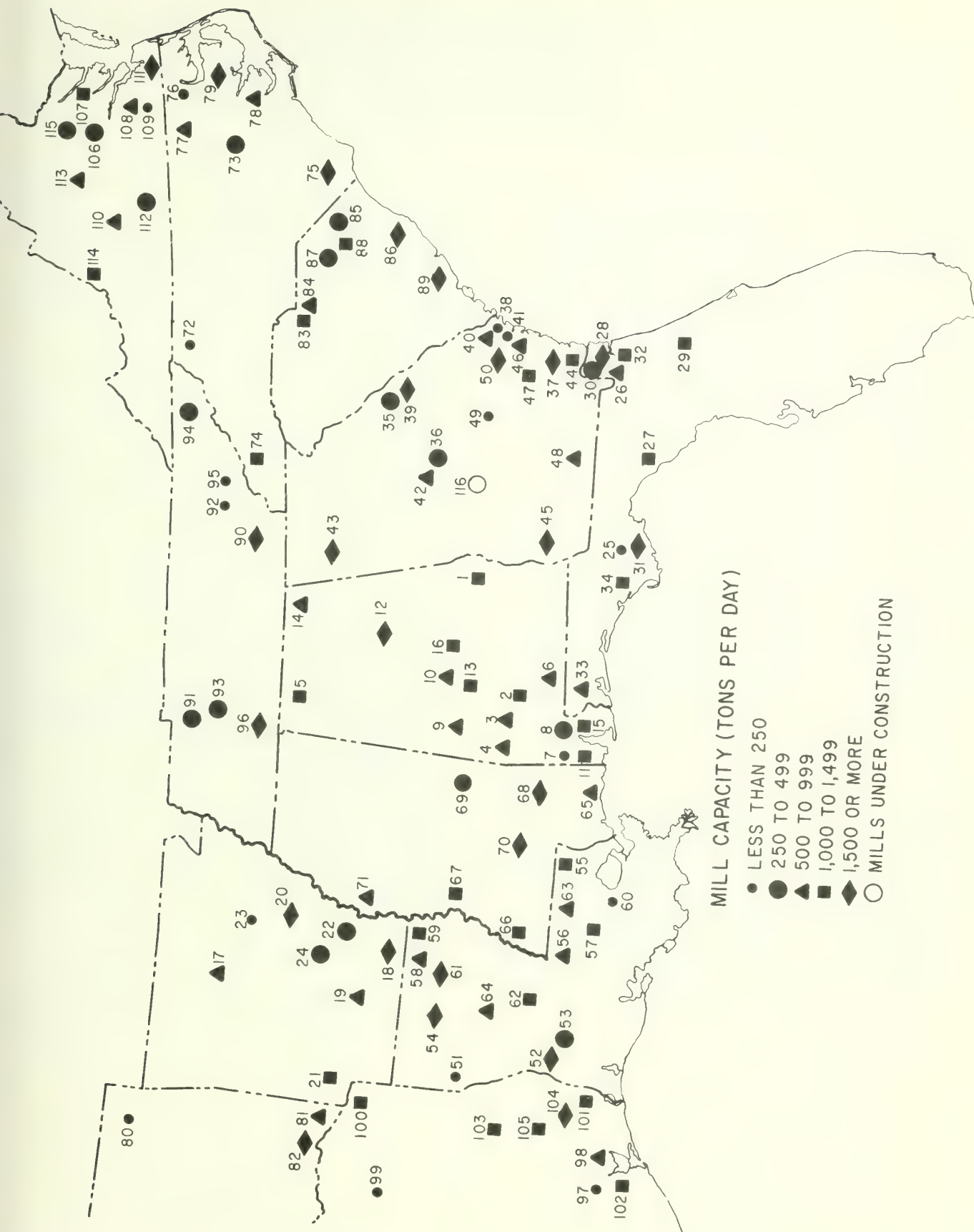


Table 19.--Southern pulp mills, by process and capacity, 1979

Location	Map code ¹	Company	Pulping capacity, 24 hours ²				
			All processes	Sulfate	Groundwood and other mechanical	Semi- chemical	Soda and sulfite
			Tons				
ALABAMA							
Mahrt	(1)	Alabama Kraft Co.	1,000	1,000	--	--	--
Claiborne	(2)	Alabama River Pulp Co.	1,000	1,000	--	--	--
Jackson	(3)	Allied Paper Inc.	600	600	--	--	--
Naheola	(4)	American Can Co.	900	900	--	--	--
Courtland	(5)	Champion International Corp.	1,300	1,300	--	--	--
Brewton	(6)	Container Corp. of America	800	800	--	--	--
Mobile	(7)	GAF Corp.	50	--	50	--	--
Mobile	(8)	Gold Bond Building Products	375	--	200	175	--
Demopolis	(9)	Gulf States Paper Corp.	525	525	--	--	--
Selma	(10)	Hammermill Paper Co.	530	530	--	--	--
Mobile	(11)	International Paper Co.	1,261	1,035	226	--	--
Coosa Pines	(12)	Kimberly-Clark Corp.	1,940	1,000	940	--	--
Pine Hill	(13)	McMillan Bloedel Inc.	1,100	1,100	--	--	--
Stevenson	(14)	Mead Paperboard	775	--	--	775	--
Mobile	(15)	Scott Paper Co.	1,400	1,400	--	--	--
Montgomery	(16)	Union Camp Corp.	1,000	1,000	--	--	--
Total			14,556	12,190	1,416	950	--
ARKANSAS							
Morrilton	(17)	Arkansas Kraft Corp.	800	800	--	--	--
Crossett	(18)	Georgia-Pacific Corp.	1,700	1,700	--	--	--
Camden	(19)	International Paper Co.	750	750	--	--	--
Pine Bluff	(20)	International Paper Co.	1,700	1,300	400	--	--
Ashdown	(21)	Nekoosa Papers Inc.	1,300	1,300	--	--	--
McGehee	(22)	Potlatch Corp.	450	450	--	--	--
Little Rock	(23)	Superwood Corp.	140	--	140	--	--
Pine Bluff	(24)	Weyerhaeuser Co.	250	250	--	--	--
Total			7,090	6,550	540	--	--
FLORIDA							
Blountstown	(25)	Abitibi Corp.	200	--	200	--	--
Jacksonville	(26)	Alton Box Board Co.	625	625	--	--	--
Foley	(27)	The Buckeye Cellulose Corp.	1,176	1,176	--	--	--
Fernandina Beach	(28)	Container Corp. of America	1,700	1,700	--	--	--
Palatka	(29)	Georgia-Pacific Corp.	1,150	1,150	--	--	--
Fernandina Beach	(30)	I.T.T. Rayonier Inc.	400	--	--	--	400
Port St. Joe	(31)	St. Joe Paper Co.	1,700	1,700	--	--	--
Jacksonville	(32)	St. Regis Paper Co.	1,400	1,400	--	--	--
Pensacola	(33)	St. Regis Paper Co.	950	950	--	--	--
Panama City	(34)	Southwest Forest Industries, Inc.	1,415	1,415	--	--	--
Total			10,716	10,116	200	--	400

Continued

Table 19.--Southern pulpmills, by process and capacity, 1979--Continued

Location	Map code ¹	Company	Pulping capacity, 24 hours ²				
			All	Sulfate	Groundwood	Semi-	Soda
			processes		and other	chemical	and
					mechanical		sulfite
----- Tons -----							
GEORGIA							
Augusta	(35)	Abitibi Southern Corp.	400	--	400	--	--
Macon	(36)	Armstrong Cork Co.	400	--	400	--	--
Brunswick	(37)	Brunswick Pulp and Paper Co.	1,675	1,675	--	--	--
Savannah	(38)	Certain-teed Products Corp.	80	--	--	80	--
Augusta	(39)	Continental Forest Industries	1,600	1,200	400	--	--
Port Wentworth	(40)	Continental Forest Industries	700	700	--	--	--
Savannah	(41)	GAF Corp.	125	--	50	75	--
Macon	(42)	Georgia Kraft Co., Mead Div.	900	900	--	--	--
Rome	(43)	Georgia Kraft Co., Krannert Div.	1,600	1,600	--	--	--
St. Marys	(44)	Gilman Paper Co., St. Marys Kraft Div.	1,100	1,100	--	--	--
Cedar Springs	(45)	Great Southern Paper Co.	2,270	1,870	--	400	--
Riceboro	(46)	Interstate Paper Corp.	550	550	--	--	--
Jesup	(47)	I.T.T. Rayonier Inc.	1,266	1,266	--	--	--
Valdosta	(48)	Owens-Illinois, Forest Products Div.	875	875	--	--	--
Dublin	(49)	Southeast Paper Mfg. Co.	70	--	70	--	--
Savannah	(50)	Union Camp Corp.	3,100	2,700	--	400	--
Total			16,711	14,436	1,320	955	--
LOUISIANA							
Shreveport	(51)	Bird and Son, Inc.	225	--	--	225	--
DeRidder	(52)	Boise Southern Co.	1,500	1,050	450	--	--
Elizabeth	(53)	Calkraft Paper Co.	305	305	--	--	--
Hodge	(54)	Continental Forest Industries	1,650	1,400	--	250	--
Bogalusa	(55)	Crown Zellerbach Corp.	1,450	1,300	--	150	--
St. Francisville	(56)	Crown Zellerbach Corp.	805	550	255	--	--
Port Hudson	(57)	Georgia-Pacific Corp.	1,285	1,285	--	--	--
Bastrop	(58)	International Paper Co. (Bastrop Mill)	600	--	--	600	--
Bastrop	(59)	International Paper Co. (Louisiana Mill)	1,100	1,100	--	--	--
New Orleans	(60)	Masonite Corp.	130	--	130	--	--
West Monroe	(61)	Olinkraft, Inc.	1,900	1,650	--	250	--
Pineville	(62)	Pineville Kraft Corp.	1,050	1,050	--	--	--
St. Francisville	(63)	St. Francisville Paper Co.	805	550	255	--	--
Campti	(64)	Western Kraft Corp.	930	850	80	--	--
Total			13,735	11,090	1,170	1,475	--

Continued

Table 19.--Southern pulp mills, by process and capacity, 1979--Continued

Location	Map code ¹	Company	Pulping capacity, 24 hours ²				
			All processes	Sulfate	Groundwood and other mechanical	Semi- chemical	Soda and sulfite
			----- Tons -----				
MISSISSIPPI							
Moss Point	(65)	International Paper Co.	700	700	--	--	--
Natchez	(66)	International Paper Co.	1,100	1,100	--	--	--
Vicksburg	(67)	International Paper Co.	1,200	1,200	--	--	--
Laurel	(68)	Masonite Corp.	2,275	--	2,275	--	--
Meridian	(69)	Owens-Corning Fiberglass Corp.	250	--	250	--	--
Monticello	(70)	St. Regis Paper Co.	1,620	1,620	--	--	--
Greenville	(71)	United States Gypsum Co.	500	--	500	--	--
Total			7,645	4,620	3,025	--	--
NORTH CAROLINA							
Roaring River	(72)	Abitibi Corp.	150	--	150	--	--
Goldsboro	(73)	The Celotex Corp.	300	--	200	100	--
Canton	(74)	Champion International Corp.	1,380	1,380	--	--	--
Riegelwood	(75)	Federal Paper Board Co., Inc.	1,600	1,600	--	--	--
Conway	(76)	Georgia-Pacific Corp.	240	--	240	--	--
Roanoke Rapids	(77)	Hoerner Waldorf Div., Champion International Corp.	940	940	--	--	--
New Bern	(78)	Weyerhaeuser Co.	725	725	--	--	--
Plymouth	(79)	Weyerhaeuser Co.	2,100	1,850	--	250	--
Total			7,435	6,495	590	350	--
OKLAHOMA							
Pryer	(80)	Georgia-Pacific Corp.	150	--	150	--	--
Broken Bow	(81)	Weyerhaeuser Co.	920	--	920	--	--
Valiant	(82)	Weyerhaeuser Co.	2,000	1,500	--	500	--
Total			3,070	1,500	1,070	500	--
SOUTH CAROLINA							
Catawba	(83)	Bowaters Carolina Corp.	1,150	1,000	150	--	--
Catawba	(84)	Catawba Newsprint Co.	500	--	500	--	--
Marion	(85)	The Celotex Corp.	360	--	360	--	--
Georgetown	(86)	International Paper Co.	2,130	1,650	--	480	--
Hartsville	(87)	Sonoco Products Co.	432	--	--	432	--
Florence	(88)	South Carolina Industries, Inc.	1,400	1,400	--	--	--
Charleston	(89)	Westvaco Corp.	2,000	2,000	--	--	--
Total			7,972	6,050	1,010	912	--

Continued

Table 19.--Southern pulpmills, by process and capacity, 1979--Continued

Location	Map code ¹	Company	Pulping capacity, 24 hours ²				
			All	Sulfate	Groundwood	Semi-	Soda
			processes		and other	chemical	and sulfite
			Tons				
TENNESSEE							
Calhoun	(90)	Bowaters Southern Paper Corp.	1,625	500	925	--	200
Paris	(91)	The Celotex Corp.	300	--	--	300	--
Harriman	(92)	Harriman Paperboard Corp.	190	--	--	190	--
New Johnsonville	(93)	Inland Container Corp.	400	--	--	400	--
Kingsport	(94)	Mead Paper	250	--	--	--	250
Knoxville	(95)	Tamko Asphalt Products, Inc.	120	--	120	--	--
Counce	(96)	Tennessee River Pulp and Paper Co.	1,500	1,500	--	--	--
Total			4,385	2,000	1,045	890	450
TEXAS							
Houston	(97)	The Celotex Corp.	50	--	50	--	--
Pasadena	(98)	Champion International Corp.	750	750	--	--	--
Dallas	(99)	GAF Corp.	70	--	70	--	--
Texarkana	(100)	International Paper Co.	1,200	1,200	--	--	--
Orange	(101)	Owens-Illinois Inc.	1,200	1,200	--	--	--
Houston	(102)	St. Regis Paper Co.	1,450	650	800	--	--
Lufkin	(103)	St. Regis Paper Co.	1,200	400	800	--	--
Evadale	(104)	Temple-EasTex Inc.	1,500	1,500	--	--	--
Diboll	(105)	Temple Industries Div., Temple-EasTex Inc.	1,430	--	1,430	--	--
Total			8,850	5,700	3,150	--	--
VIRGINIA							
Ashland	(106)	Bear Island Paper Co.	520	--	--	520	--
West Point	(107)	The Chesapeake Corp. of Va.	1,450	1,450	--	--	--
Hopewell	(108)	Continental Forest Industries	874	874	--	--	--
Jarratt	(109)	Georgia-Pacific Corp.	240	--	240	--	--
Big Island	(110)	Owens-Illinois, Forest Products Div.	525	--	--	525	--
Franklin	(111)	Union Camp Corp.	1,800	1,800	--	--	--
Danville	(112)	United States Gypsum Co.	375	--	375	--	--
Riverville	(113)	Virginia Fiber Corp.	500	--	--	500	--
Covington	(114)	Westvaco Corp.	1,304	1,144	--	160	--
Doswell	(115)	Weyerhaeuser Co. (Closed in early 1979)	300	--	300	--	--
Total			7,888	5,268	915	1,705	--
Total South			110,053	86,015	15,451	7,737	850

¹Corresponds to numbers at locations on mill capacity map, page 17.²Southern Pulp and Paper Manufacturer, Vol. 42, No. 10 (October 1979); and other sources.

Table 20.--Other mills using southern pulpwood in 1979, by process and capacity

Location	Company	Pulping capacity, 24 hours				
		All processes	Sulfate	Groundwood and other mechanical	Semi- chemical	Soda and sulfite
----- Tons -----						
ILLINOIS						
Chicago	Bird and Son, Inc.	42	--	--	24	--
Peoria	The Celotex Corp.	240	--	240	--	--
Wilmington	The Celotex Corp.	30	--	30	--	--
Joliet	GAF Corp.	100	--	100	--	--
KENTUCKY						
Hawesville	Western Kraft	300	--	--	300	--
Wickliffe	Westvaco Corp.	600	600	--	--	--
MARYLAND						
Luke	Westvaco Corp.	758	758	--	--	--
MISSOURI						
Kansas City	GAF Corp.	120	--	120	--	--
OHIO						
Franklin	Bird and Son, Inc.	60	--	60	--	--
Cincinnati	The Celotex Corp.	100	100	--	--	--
Franklin	Georgia-Pacific Corp.	85	--	85	--	--
PENNSYLVANIA						
Roaring Springs	Appleton Papers, Inc.	180	180	--	--	--
York	Certain-teed Products Corp.	50	--	50	--	--
Spring Cove	P. H. Glatfelter Co.	500	500	--	--	--

Table 21.--Pulpmills under construction in the South

Location	Map code ¹	Company	Pulping capacity, 24 hours
----- Tons -----			
GEORGIA			
Oglethorpe	116	Buckeye Cellulose Corp.	880

¹ Corresponds to numbers at location on mill capacity map, page 17.

Bellamy, Thomas R., and Cecil C. Hutchins, Jr.

1981. Southern pulpwood production, 1979. USDA For. Serv.,
Resour. Bull. SE-57, 22 p. Southeast. For. Exp. Stn.,
Asheville, N.C.

Pulpwood production in the South rose a modest 7 percent in 1979 to 54 million cords. Of the increase, 55 percent was from roundwood and 45 percent was from plant byproducts. Pulping capacity of the 115 mills in the South also rose 7 percent to over 110,000 tons per day.

KEYWORDS: Pulpwood, roundwood, residues, pulp mills.



The Forest Service, U.S. Department of Agriculture, is dedicated to the principle of multiple use management of the Nation's forest resources for sustained yields of wood, water, forage, wildlife, and recreation. Through forestry research, cooperation with the States and private forest owners, and management of the National Forests and National Grasslands, it strives—as directed by Congress—to provide increasingly greater service to a growing Nation.

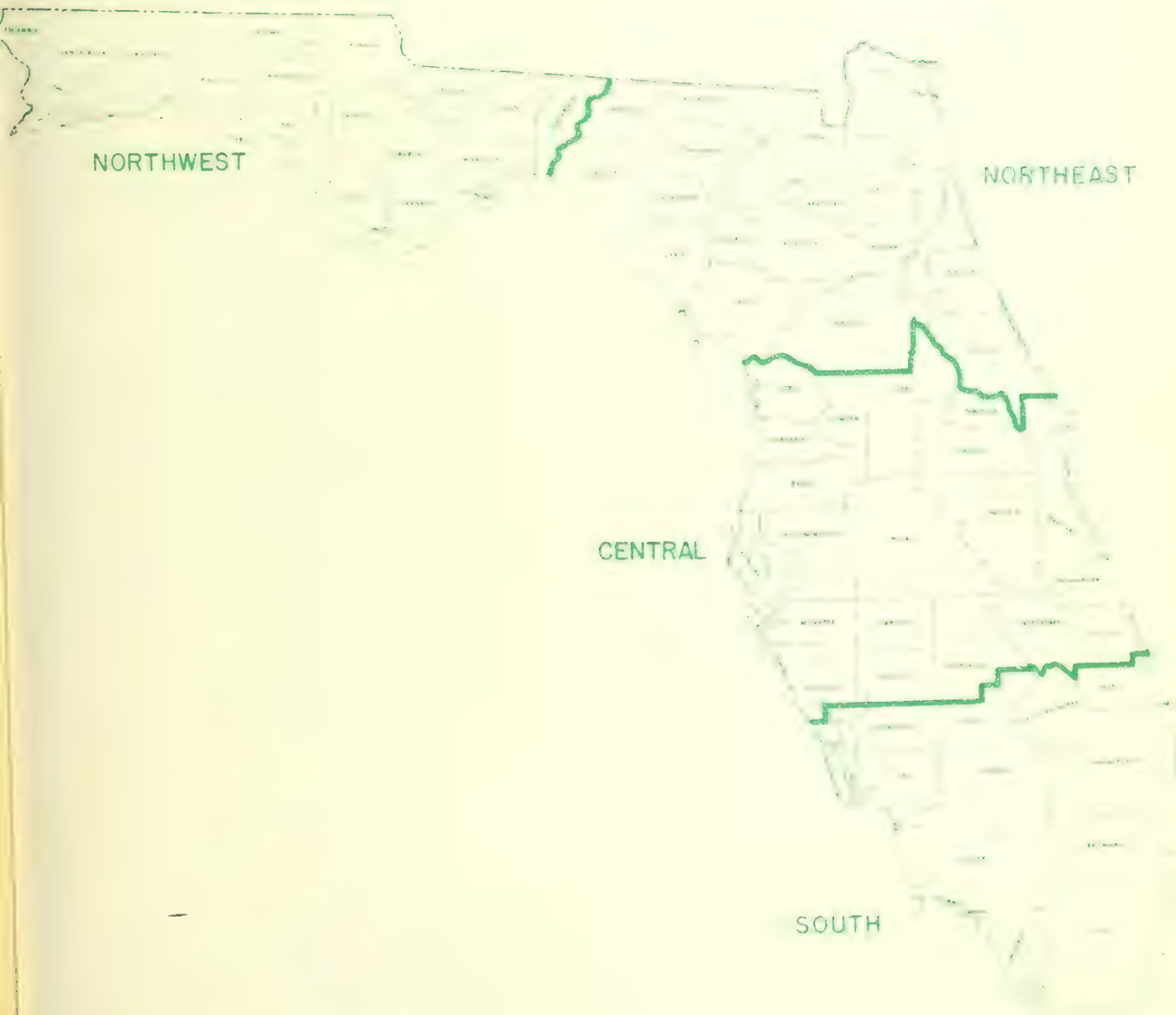
USDA policy does not permit discrimination because of race, color, national origin, sex or religion. Any person who believes he or she has been discriminated against in any USDA-related activity should write immediately to the Secretary of Agriculture, Washington, D.C. 20250.

United States
Department of
Agriculture
Forest Service



Southeastern Forest
Experiment Station
Source Bulletin
58

FOREST STATISTICS FOR FLORIDA, 1980



FOREWORD

This report highlights the principal findings of the fifth inventory of Florida's forests. Fieldwork began in September 1978 and was completed in May 1980. Four previous surveys, completed in 1936, 1949, 1959, and 1970, provide statistics for measuring changes and trends over the past 44 years. The primary emphasis in this report is on the changes and trends since 1970. Previously reported figures have been adjusted to provide the best estimate of change.

Renewable Resources Evaluation (formerly Forest Survey) is authorized by the Forest and Rangeland Renewable Resources Research Act of 1978. The inventory is a continuing nationwide undertaking by the regional experiment stations of the Forest Service, USDA. In Florida, Georgia, North Carolina, South Carolina, and Virginia, Renewable Resources Evaluation is administered through the Southeastern Forest Experiment Station, with headquarters in Asheville, North Carolina. The primary objective of the survey is to periodically inventory and evaluate the forest and related resources. These inventories provide information on the extent and condition of forest lands, volume of timber, and rates of timber growth and removals. These evaluations help provide a basis for the formulation of forest policies and programs and for the orderly development and use of the resources.

Reports for three survey units in Florida, USDA Forest Service Resource Bulletins SF-52, SE-53, and SE-55, have been issued for the Northwest, Northeast, and Central Units, respectively. The report for the South Florida Unit is being published and distributed along with this report. An in-depth State analytical report dealing with timber resources should be available in late 1981.

The Southeastern Station gratefully acknowledges the cooperation of the Division of Forestry, Florida Department of Agriculture and Consumer Services. Appreciation is also expressed for the excellent cooperation of other public agencies, forest industry, and private landowners in providing information and access to the sample locations.



JOE P. McCLURE
Project Leader

July 1981

Southeastern Forest Experiment Station
Asheville, North Carolina

Forest Statistics for Florida, 1980

by

William A. Bechtold, Resource Analyst

and

Raymond M. Sheffield, Resource Analyst

Asheville, North Carolina

CONTENTS

	<i>Page</i>
HIGHLIGHTS	1
HOW THE INVENTORY IS MADE	3
RELIABILITY OF THE DATA	4
DEFINITIONS OF TERMS	6
COUNTY TABLES	
1. Area, by land class	14
2. Area of commercial forest land, by ownership class	15
3. Area of commercial forest land, by forest-type group	17
4. Area of commercial forest land, by stand-size class	19
5. Area of commercial forest land, by site class	20
6. Area of commercial forest land, by stocking classes of growing-stock trees	21
7. Volume of sawtimber and growing stock on commercial forest land, by species group	22
8. Net annual growth of sawtimber and growing stock on commercial forest land, by species group	24
9. Annual removals of sawtimber and growing stock on commercial forest land, by species group	26
STATE TABLES	
10. Area of commercial forest land, by forest type and ownership class	28
11. Area of commercial forest land, by ownership and stocking classes of growing-stock trees	28
12. Volume of timber on commercial forest land, by class and species group	29
13. Number of growing-stock trees on commercial forest land, by species and diameter class	30
14. Volume of all live trees on commercial forest land, by species and diameter class	31
15. Volume of growing stock on commercial forest land, by species and diameter class	32
16. Volume of sawtimber on commercial forest land, by species and diameter class	33
17. Net annual growth and removals of growing stock on commercial forest land, by species	34
18. Net annual growth and removals of sawtimber on commercial forest land, by species	34
19. Mortality of growing stock and sawtimber on commercial forest land, by species	35
20. Volume of all live trees and growing stock on commercial forest land, by ownership class and species group	36
21. Volume of sawtimber on commercial forest land, by ownership class and species group	36
22. Net annual growth and removals of growing stock on commercial forest land, by ownership class and species group	37
23. Net annual growth and removals of sawtimber on commercial forest land, by ownership class and species group	37
24. Average net volume per acre of sawtimber, growing stock, and other live timber on commercial forest land, by ownership class, major forest type, and species group	38
25. Land area, by class, major forest type, and survey completion date	39
26. Volume of sawtimber, growing stock, and all live timber on commercial forest land, by species group, diameter class, and survey completion date	40

HIGHLIGHTS

Since the fourth inventory of Florida's forest resources was completed in 1970

- *area of commercial forest land has declined by 597,000 acres, or 4 percent.* Decreases were measured in all survey units except the South Florida Unit. Statewide, 1.3 million acres were diverted to other land uses, while 689,000 acres were added to the commercial forest land base. Of the diversions, 42 percent went to urban, 35 percent to agriculture, 22 percent to noncommercial forest, and less than 1 percent to water. Of the 689,000 acres added to the commercial forest land base for the State, 45 percent was due to the reclassification of unproductive forest and rangeland in the South Florida Unit. All of these changes together constitute a reduction of the commercial forest base to 15.7 million acres, or 45 percent of the total land.

- *area of commercial forest land owned by farmers and miscellaneous private individuals has decreased substantially.* Farmer-owned forest land has declined by 984,000 acres, or 33 percent. Commercial forest land owned by miscellaneous private individuals has declined by 670,000 acres, or 15 percent. The majority of the decrease in these ownership categories was due to land clearing and to a shift of acreage to miscellaneous private corporate owners. Commercial forest acreage owned by forest industry was overestimated in 1970 due to difficulties involving the separation of forest industry fee-simple holdings from lands leased to forest industry in the Northeast Unit. Forest industry acreages have been adjusted accordingly, and this report reflects those adjustments. Since 1970, forest industry fee-simple holdings have increased by 117,000 acres, or 3 percent across the State. Forest industry now owns 4.7 million acres, and controls another 740,000 acres under long-term lease agreements. Public ownership of commercial forest acres has remained relatively constant; National Forest and miscellaneous Federal acreage has declined slightly while that in State, county, and municipal control has increased slightly.

- *one-half of the commercial forest acreage has experienced significant treatment or disturbance.* About 2.6 million acres (17 percent of the total commercial forest acreage) were harvested. Of the commercial forest acres harvested and retained in forest, 868,000 acres, or 33 percent, were subsequently artificially regenerated. Of the commercial forest acres harvested on lands controlled by forest industry,¹ 51 percent were subsequently artificially regenerated. Of the commercial forest acres harvested on other private lands,² 8 percent were subsequently artificially regenerated. Altogether, about 1.4 million acres of harvested, site-prepared, and nonforest land were artificially regenerated. About 74 percent of these planted acres are controlled by forest industry. Stands originating, wholly or in part, from artificial regeneration now make up about 22 percent of Florida's commercial forest land. Disease, fire, insects, weather, and other natural destructive agents have significantly disturbed forests on 971,000 acres.

- *the ratio of pine types to hardwood and oak-pine types has remained about the same across the State.* Declines in commercial forest were proportionately distributed between these types. Area occupied by pine forest types has decreased by 241,000 acres, or 3 percent, while area occupied by hardwood and oak-pine types has decreased by 356,000 acres, or 4 percent. Disregarding changes in the commercial forest-land base, the ratio of pine types to hardwood and oak-pine types has remained the same as in 1970.

- *average basal area of all live trees 5.0 inches d.b.h. and larger has increased from 43 to 53 square feet per acre of commercial forest land.* Rough and rotten trees make up 16 percent of the total basal area. In 1970, 14 percent of commercial forest acres were classed as fully stocked, 36 percent as medium stocked, and 50 percent as poorly stocked with growing-stock trees. The breakdown now is 27 percent fully stocked, 33 percent medium stocked, and 40 percent poorly stocked. Clearly, stocking of Florida's timberlands is improving, but there is still a long way to go, as two out of every five stands are poorly stocked at present.

- *volume of softwood growing stock has increased from 7.3 to 8.7 billion cubic feet, or by 20 percent.* Slash pine accounted for 63 percent of this increase, and cypress for 24 percent. Over 58 percent of the slash pine volume increase occurred in the Northeast Unit. Slash pine was the predominant softwood species in the State, with 43 percent of the total softwood growing-stock volume. Cypress, longleaf pine, and loblolly pine contributed 27 percent, 16 percent, and 7 percent, respectively, to the total softwood growing-stock volume. In contrast to the overall softwood volume increase, longleaf pine growing-stock volume declined by 112 million cubic feet, or about 8 percent across the State. Over 96 percent of this decline took place in the Northeast Unit. These figures demonstrate that longleaf pine is continuing to be replaced by slash pine in Florida. The softwood volume increase was distributed across all poletimber and sawtimber diameter classes. The current inventory of softwood growing stock includes 25.6 billion board feet of sawtimber, an increase of 20 percent.

¹ Includes lands leased to forest industry by farmers and miscellaneous private owners.

² Does not include lands leased to forest industry.

• *volume of hardwood growing stock has increased from 4.3 to 4.9 billion cubic feet, or by 15 percent.* Blackgum, red oaks, bay and magnolia, and sweetgum made up 70 percent of the total hardwood growing-stock volume. Hardwoods accounted for 36 percent of the growing-stock inventory. The hardwood volume increase was distributed across all diameter classes. The current inventory of hardwood growing stock includes 14.2 billion board feet of sawtimber, an increase of 17 percent.

• *numbers of softwood saplings have declined significantly.* The number of all live softwoods in the 4-inch diameter class has decreased by 4 percent, and the number of softwoods in the 2-inch diameter class has decreased by 22 percent. There has also been a notable reduction of acreage planted to pine since 1970. The average annual amount of acreage planted to pine between 1970 and 1980 was 24 percent less than that between 1959 and 1970. As a result, the number of 2-inch slash pine saplings (the most widely planted species in the State) has declined by 31 percent since 1970. On the other hand, the number of hardwood saplings has increased by 15 percent since 1970. Reductions in the number of softwood saplings imply a corresponding reduction in future softwood volume.

In 1979

• *net annual growth of growing stock totaled 785 million cubic feet, an increase of 48 percent since the fourth survey.* Net annual growth of growing stock was up by 46 percent for softwoods, and 55 percent for hardwoods. The combined growth for softwoods and hardwoods averaged 50 cubic feet per acre, an increase of 17 cubic feet per acre since 1969. Net annual growth of growing stock was highest in the Northeast Unit, where it averaged 63 cubic feet per acre. Across the State, softwoods accounted for 77 percent of the net growth. By ownership, 14 percent of the net growth of growing stock occurred on public lands, 39 percent on lands controlled by forest industry, including leased, 12 percent on farmer-owned lands, and 35 percent on miscellaneous private ownerships. This growth included 2.6 billion board feet of sawtimber.

• *annual removals of growing stock totaled 542 million cubic feet.* Since 1969, softwood growing-stock removals have increased by 63 percent, and hardwood removals by 27 percent. Annual timber removals averaged 75 percent of net annual growth for softwoods, and 49 percent for hardwoods. Softwoods provided a disproportionate share of growing-stock removals. Softwood growing stock made up 64 percent of the inventory and 77 percent of the net growth, but provided 84 percent of the total removals. By ownership, 12 percent of all removals were from public lands, 45 percent from lands controlled by forest industry, including leased, 12 percent from farmer-owned lands, and 31 percent from miscellaneous private owners. Annual removals of growing stock included 1.8 billion board feet of sawtimber.

• *mortality of growing stock totaled 105 million cubic feet and included 304 million board feet of sawtimber.* Softwoods accounted for 58 percent of the mortality. The leading identifiable causes of death were weather, fire, and suppression. Mortality of growing stock reduced gross growth by 12 percent.

HOW THE INVENTORY IS MADE

The method of the inventory is a sampling procedure designed to provide reliable statistics primarily at the State and Survey Unit levels. Individual county statistics are presented so that any combination of counties may be added together until a total is large enough to meet the desired degree of reliability. Procedures were as follows:

1. In the Northeast, Northwest, and Central Units, initial estimates of forest and nonforest areas were based on the classification of 69,766 sample clusters systematically spaced on the latest aerial photographs available. A subsample of 9,566 of the 16-point clusters was ground-checked, and a linear regression was fitted to the data to develop the relationship between the photo and ground classification of the subsample. This procedure provides a means for adjusting the initial estimates of area for change in land use since date of photography and for photo misclassifications. In the South Florida Unit a variety of unique land types, and incomplete photo coverage, made aerial photograph interpretation unreliable, so a different method of land use classification was employed. Estimates of forest and nonforest areas were determined from direct aerial observations along 27 east-west flight lines spaced at 5-mile intervals. The flight lines were selected systematically from a random start and flown perpendicularly to the direction of primary drainage. From an altitude of 500 feet above the ground, observers classified the land use at 24,471 sample points along the flight lines. An interval timer was used to locate the sample plots. Due to the unique geographical layout of the Keys, gross area estimates were made by planimeter of the U.S. Geographical Survey boundaries as transferred from maps onto aerial photographs. The breakdown of gross acreage into detailed land use was based upon the ground classification of 45 sample locations.

2. Estimates of timber volume and forest classifications were based on measurements recorded at 4,680 ground sample locations systematically distributed within the commercial forest land. The plot design at each location was based on a cluster of 10 points. In most cases, variable plots, using a basal-area factor of 37.5 square feet per acre, were systematically spaced within a single forest condition at 5 of the 10 cluster points. Trees less than 5 inches d.b.h. were tallied on a fixed-radius plot around each point center.

3. Equations prepared from detailed measurements of standing trees in Florida, and similar measurements taken throughout the Southeast, were used to compute the volumes of individual tally trees. A mirror caliper and sectional aluminum poles were used to obtain the additional measurements on these standing trees required to construct volume equations.

4. Felled trees were measured at 97 active cutting operations throughout the State. These data will be used to supplement the standing-tree volume data and to generate utilization factors for product and species groups.

5. Estimates of growth, removals, and mortality were determined from the remeasurement of 4,614 permanent sample plots established in the fourth survey.

6. Ownership information was collected from correspondence, public records, and local contacts. In those counties where the sample missed a particular ownership class, temporary sample plots were added on these lands.

7. All field data were sent to Asheville for editing and were punched into cards and stored for machine computing, sorting, and tabulation. Final estimates were based on statistical summaries of the data.

RELIABILITY OF THE DATA

Statistical analysis of these data indicates the following sampling errors in terms of one standard error (two times out of three):

	<i>Percent</i>
Per million acres of commercial forest land	2.76
Per billion cubic feet of growing stock	6.46
Per billion cubic feet of net annual growth	1.48
Per billion cubic feet of annual removals	2.85

Sampling errors for county and unit totals,¹ in terms of one standard error

County	Commercial forest area	Cubic-foot volume of growing stock		
		Inventory	Growth	Removals
----- Sampling error ² -----				
Alachua	2.53	12.03	12.98	22.25
Baker	.98	10.68	9.83	20.95
Bay	2.05	14.09	11.21	27.92
Bradford	2.92	17.93	19.84	25.28
Brevard	6.34	18.10	19.79	58.62
Broward	0	0	0	0
Calhoun	1.57	11.55	11.70	32.92
Charlotte	13.62	28.68	30.04	71.41
Citrus	3.00	16.41	22.30	40.28
Clay	1.87	13.23	11.56	38.79
Collier	9.12	16.72	15.95	42.12
Columbia	1.62	9.36	8.86	27.96
Dade	0	0	0	0
De Soto	8.24	31.91	29.18	69.31
Dixie	1.19	11.10	9.77	19.56
Duval	2.41	11.33	11.48	27.43
Escambia	2.13	10.90	11.01	24.74
Flagler	2.55	13.86	11.42	23.07
Franklin	1.50	18.14	15.29	25.64
Gadsden	2.30	13.10	14.46	24.06
Gilchrist	3.82	19.09	18.00	44.09
Glades	7.30	31.67	20.40	69.67
Gulf	2.40	16.46	12.98	33.97
Hamilton	2.79	13.35	12.96	25.78
Hardee	6.04	16.66	20.36	0
Hendry	17.84	27.70	23.10	45.39
Hernando	3.52	16.12	15.70	39.18
Highlands	6.67	23.15	26.42	71.72
Hillsborough	5.53	17.80	16.39	43.22
Holmes	2.10	13.55	15.03	21.62
Indian River	10.34	42.36	30.25	100.53
Jackson	2.30	10.93	11.01	20.31
Jefferson	2.18	9.76	9.88	26.99
Lafayette	1.70	12.87	12.41	34.32
Lake	3.24	11.15	11.20	30.09
Lee	18.99	35.93	22.98	50.27
Leon	3.47	9.61	8.83	22.19
Levy	1.59	9.74	9.70	18.38
Liberty	.51	9.78	8.59	29.12
Madison	2.04	14.48	11.42	19.39
Manatee	7.33	36.44	33.89	0
Marion	1.51	8.80	8.37	22.96
Martin	22.59	47.69	52.95	101.96
Monroe	0	0	0	0
Nassau	1.74	9.80	9.46	18.98
Okaloosa	1.45	10.66	10.27	24.81
Okeechobee	8.97	22.58	28.35	100.30
Orange	4.49	14.25	14.01	36.09
Osceola	4.27	12.51	10.60	32.49
Palm Beach	0	0	0	0
Pasco	4.36	14.08	12.93	46.85
Pinellas	12.89	46.54	45.90	53.25
Polk	3.86	12.02	11.42	27.09
Putnam	1.59	13.23	10.60	31.87
St. Johns	2.64	10.82	10.27	28.35
St. Lucie	9.46	25.96	33.92	46.03
Santa Rosa	1.44	8.65	8.28	22.00
Sarasota	8.85	21.63	26.49	44.79
Seminole	5.55	19.66	16.16	50.24
Sumter	4.07	14.61	14.26	38.69
Suwannee	2.70	15.33	16.61	25.19
Taylor	1.12	8.36	8.59	17.54
Union	3.68	16.18	14.08	34.78
Volusia	1.64	9.24	8.98	25.92
Wakulla	1.23	10.80	11.04	24.24
Walton	1.83	9.26	8.36	21.01
Washington	2.00	14.86	16.48	28.55
Total	.70	1.75	1.67	3.88

¹Sampling error of breakdowns of county and unit totals may be computed with the following formula:

$$E = \frac{(SE) \sqrt{(\text{Specified volume or area})}}{\sqrt{(\text{Volume or area total in question})}}$$

Where: E = Sampling error of the volume or area total in question.

SE = Specified sampling error in table.

²By random sampling formula (in percent).

DEFINITIONS OF TERMS

Acceptable trees.--Growing-stock trees of commercial species that meet specified standards of size and quality, but not qualifying as desirable trees.

Basal area.--The area in square feet of the cross section at breast height of a single tree or of all the trees in a stand, usually expressed as square feet of basal area per acre.

Commercial forest land.--Forest land producing or capable of producing crops of industrial wood and not withdrawn from timber utilization.

Commercial species.--Tree species presently or prospectively suitable for industrial wood products.

Cropland.--Land under cultivation within the past 24 months, including orchards and land in soil-improving crops, but excluding land cultivated in developing improved pasture. Also includes idle farmland.

Desirable trees.--Growing-stock trees of commercial species having no serious defects in quality limiting present or prospective use for timber products, of relatively high vigor, and containing no pathogens that may result in death or serious deterioration before rotation age.

Diameter class.--A classification of trees based on diameter outside bark, measured at breast height (4-1/2 feet above the ground). D.b.h. is the common abbreviation for "diameter at breast height." Two-inch diameter classes are commonly used in Forest Survey, with the even inch the approximate midpoint for a class. For example, the 6-inch class includes trees 5.0 through 6.9 inches d.b.h., inclusive.

Farm.--Lands on which agriculture operations are being conducted and sale of agriculture products totaled \$1,000 or more during the year.

Farm operator.--A person who operates a farm, either doing the work himself or directly supervising the work.

Farmer-owned lands.--Lands owned by farm operators.

Forest industry lands.--Lands owned by companies or individuals operating wood-using plants.

Forest land.--Land at least 16.7 percent stocked by forest trees of any size, or formerly having had such tree cover, and not currently developed for nonforest use.

Forest type.--A classification of forest land based upon the species forming a plurality of live-tree stocking.

Longleaf-slash pine.--Forests in which longleaf or slash pine, singly or in combination, comprises a plurality of the stocking. (Common associates include oak, hickory, and gum.)

Loblolly-shortleaf pine.--Forests in which loblolly pine, shortleaf pine, or other southern yellow pines, except longleaf or slash pine, singly or in combination, comprise a plurality of the stocking. (Common associates include oak, hickory, and gum.)

Oak-pine.--Forests in which hardwoods (usually upland oaks) comprise a plurality of the stocking but in which pines comprise 25 to 50 percent of the stocking. (Common associates include gum, hickory, and yellow-poplar.)

Oak-hickory.--Forests in which upland oaks or hickory, singly or in combination, comprise a plurality of the stocking, except where pines comprise 25 to 50 percent, in which case the stand would be classified oak-pine. (Common associates include yellow-poplar, elm, maple, and black walnut.)

Oak-gum-cypress.--Bottomland forests in which tupelo, blackgum, sweetgum, oaks, or southern cypress, singly or in combination, comprises a plurality of the stocking, except where pines comprise 25 to 50 percent, in which case the stand would be classified oak-pine. (Common associates include cottonwood, willow, ash, elm, hackberry, and maple.)

Elm-ash-cottonwood.--Forests in which elm, ash, or cottonwood, singly or in combination, comprises a plurality of the stocking. (Common associates include willow, sycamore, beech, and maple.)

Gross growth.--Annual increase in net volume of trees in the absence of cutting and mortality.

Growing-stock trees.--Live trees of commercial species qualifying as desirable or acceptable trees.

Growing-stock volume.--Net volume in cubic feet of growing-stock trees 5.0 inches d.b.h. and over from a 1-foot stump to a minimum 4.0-inch top diameter outside bark of the central stem, or to the point where the central stem breaks into limbs. (Net volume in primary forks is included.)

Hardwoods.--Dicotyledonous trees, usually broad-leaved and deciduous.

Soft hardwoods.--Soft-textured hardwoods such as boxelder, red and silver maple, buckeye, hackberry, loblolly-bay, silverbell (in mountains), butternut, sweetgum, yellow-poplar, cucumbertree, magnolia, sweetbay, water tupelo, blackgum, sycamore, cottonwood, black cherry, willow, basswood, and elm.

Hard hardwoods.--Hard-textured hardwoods such as Florida and sugar maple, birch, hickory, dogwood, persimmon (forest grown), beech, ash, honeylocust, holly, black walnut, mulberry, all commercial oaks, and black locust.

Idle farmland.--Includes former croplands, orchards, improved pastures and farm sites not tended within the past 2 years, and presently less than 16.7 percent stocked with trees.

Improved pasture.--Land currently improved for grazing by cultivation, seeding, irrigation, or clearing of trees or brush.

Industrial wood.--All roundwood products except fuelwood.

Land area.--The area of dry land and land temporarily or partly covered by water such as marshes, swamps, and river flood plains (omitting tidal flats below mean high tide); streams, sloughs, estuaries, and canals less than 1/8 of a statute mile in width; and lakes, reservoirs, and ponds less than 40 acres in area.

Logging residues.--The unused portions of trees cut or killed by logging.

Miscellaneous Federal lands.--Federal lands other than National Forests, lands administered by the Bureau of Land Management, and Indian lands.

Miscellaneous private lands - corporate.--Lands owned by private corporations other than forest industry.

Miscellaneous private lands - individual.--Privately owned lands other than forest-industry, farmer-owned, or corporate lands.

Mortality.--Number or sound-wood volume of live trees dying from natural causes during a specified period.

National Forest land.--Federal lands which have been legally designated as National Forests or purchase units, and other lands under the administration of the Forest Service, including experimental areas and Bankhead-Jones Title III lands.

Net annual growth.--The increase in volume for a specific year.

Net volume.--Gross volume less deductions for rot, sweep, or other defect affecting use for timber products.

Noncommercial forest land.--(a) Unproductive forest land incapable of yielding crops of industrial wood because of adverse site conditions, and (b) productive-reserved forest land.

Noncommercial species.--Tree species of typically small size, poor form, or inferior quality which normally do not develop into trees suitable for industrial wood products.

Nonforest land.--Land that has never supported forests and lands formerly forested where timber management is precluded by development for other uses.

Nonstocked land.--Commercial forest land less than 16.7 percent stocked with growing-stock trees.

Other Federal lands.--Federal lands other than National Forests, including lands administered by the Bureau of Land Management, Bureau of Indian Affairs, and other Federal agencies.

Other public lands.--Publicly owned lands other than National Forests.

Overstocked areas.--Areas where growth of trees is significantly reduced by excessive numbers of trees.

Poletimber trees.--Growing-stock trees of commercial species at least 5.0 inches in d.b.h. but smaller than sawtimber size.

Productive-reserved forest land.--Forest land sufficiently productive to qualify as commercial forest land, but withdrawn from timber utilization through statute or administrative designation.

Rangeland.--Land on which the natural plant cover is composed principally of native grasses, forbs, or shrubs valuable for forage.

Rotten trees.--Live trees of commercial species that do not contain at least one 12-foot saw log, or two noncontiguous saw logs, each 8 feet or longer, now or prospectively, primarily because of rot or missing sections, and with less than one-third of the gross tree volume in sound material.

Rough trees.--(a) Live trees of commercial species that do not contain at least one 12-foot saw log, or two noncontiguous saw logs, each 8 feet or longer, now or prospectively, primarily because of roughness, poor form, splits, and cracks, and with less than one-third of the gross tree volume in sound material; and (b) all live trees of noncommercial species.

Salvable dead trees.--Standing or down dead trees that are considered merchantable by Forest Survey standards.

Saplings.--Live trees 1.0 to 5.0 inches in diameter at breast height.

Saw log.--A log meeting minimum standards of diameter, length, and defect, including logs at least 8 feet long, sound and straight, and with a minimum diameter inside bark for softwoods of 6 inches (8 inches for hardwoods).

Saw-log portion.--That part of the bole of sawtimber trees between the stump and the saw-log top.

Saw-log top.--The point on the bole of sawtimber trees above which a saw log cannot be produced. The minimum saw-log top is 7.0 inches d.o.b. for softwoods and 9.0 inches d.o.b. for hardwoods.

Sawtimber trees.--Live trees of commercial species containing at least a 12-foot saw log, or two noncontiguous saw logs, each 8 feet or longer, and with at least one-third of the gross board-foot volume between the 1-foot stump and minimum saw-log top being sound. Softwoods must be at least 9.0 inches and hardwoods at least 11.0 inches in diameter at breast height.

Sawtimber volume.--Net volume of the saw-log portion of live sawtimber in board-foot International 1/4-inch rule.

Seedlings.--Live trees less than 1.0 inch in diameter at breast height that are expected to survive and develop.

Site class.--A classification of forest land in terms of inherent capacity to grow crops of industrial wood based on fully stocked natural stands.

Class 1.--Sites capable of producing 165 or more cubic feet per acre annually.

Class 2.--Sites capable of producing 120 to 165 cubic feet per acre annually.

Class 3.--Sites capable of producing 85 to 120 cubic feet per acre annually.

Class 4.--Sites capable of producing 50 to 85 cubic feet per acre annually.

Class 5.--Sites incapable of producing 50 cubic feet per acre annually, but excluding unproductive sites.

Softwoods.--Coniferous trees, usually evergreen, having needles or scale-like leaves.

Pines.--Yellow pine species which include loblolly, longleaf, slash, shortleaf, pitch, Virginia, Table Mountain, sand, and spruce pine.

Other softwoods.--White pine, hemlock, cypress, eastern redcedar, white-cedar, spruce, and fir.

Stand-size class.--A classification of forest land based on the size class of growing-stock trees on the area.

Sawtimber stands.--Stands at least 16.7 percent stocked with growing-stock trees, with half or more of total stocking in sawtimber or poletimber trees, and with sawtimber stocking at least equal to poletimber stocking.

Poletimber stands.--Stands at least 16.7 percent stocked with growing-stock trees of which half or more of this stocking is in poletimber and sawtimber trees, and with poletimber stocking exceeding that of sawtimber.

Sapling-seedling stands.--Stands at least 16.7 percent stocked with growing-stock trees of which more than half of the stocking is saplings and seedlings.

State, county, and municipal lands.--Lands owned by States, counties, and local public agencies or municipalities, or lands leased to these governmental units for 50 years or more.

Stocking.--The degree of occupancy of land by trees, measured by basal area or the number of trees in a stand and spacing in the stand, compared to a minimum standard, depending on tree size, to fully utilize the growth potential of the land. (See page 12.)

Timber removals.--The net volume of growing-stock trees removed from the inventory by harvesting; cultural operations, such as stand improvement; land clearing, or changes in land use.

Unproductive forest land.--Forest land incapable of producing 20 cubic feet per acre of industrial wood under natural conditions, because of adverse site conditions.

Upper-stem portion.--That part of the main stem or fork of sawtimber trees above the saw-log top to a minimum top diameter of 4.0 inches outside bark or to the point where the main stem or fork breaks into limbs.

Urban and other areas.--Areas within the legal boundaries of cities and towns; suburban areas developed for residential, industrial, or recreational purposes; school yards; cemeteries; roads; railroads; airports; beaches; powerlines and other rights-of-way; or other nonforest land not included in any other specified land use class.

STOCKING STANDARD

D.B.H. CLASS	MINIMUM NUMBER OF TREES PER ACRE FOR FULL STOCKING	MINIMUM BASAL AREA PER ACRE FOR FULL STOCKING	PERCENT STOCKING ASSIGNED EACH TALLY TREE ¹
SEEDLINGS	600	--	5.0
2	560	--	5.4
4	460	--	6.5
6	340	67	5.8
8	240	84	4.8
10	155	85	4.3
12	115	90	4.0
14	90	96	3.8
16	72	101	3.7
18	60	106	3.5
20	51	111	3.5

¹ STOCKING PERCENTAGES BASED ON TALLY AT ALL 10 POINTS OF A 10-POINT CLUSTER OF PLOTS. TREES LESS THAN 5 INCHES D.B.H. WERE TALLIED ON CIRCULAR, 1/300-ACRE PLOTS AT EACH POINT. TREES 5.0 INCHES D.B.H. AND LARGER WERE TALLIED ON VARIABLE PLOTS USING A BASAL AREA FACTOR OF 37.5 AT EACH SAMPLE POINT.

OVERSTOCKED--OVER 130 PERCENT
FULLY STOCKED--100-130 PERCENT
MEDIUM STOCKED--60-99 PERCENT
POORLY STOCKED--16.7-59 PERCENT
NONSTOCKED--LESS THAN 16.7 PERCENT

CUBIC FEET OF WOOD PER AVERAGE CORD (EXCLUDING BARK)

D.B.H. CLASS	ALL SPECIES	PINE	OTHER SOFTWOOD	HARDWOOD
6	61.6	61.0	68.2	60.0
8	69.5	68.1	76.0	68.4
10	74.6	73.1	81.4	73.4
12	77.9	76.7	85.2	76.4
14	80.3	79.4	88.1	78.4
16	81.9	81.6	90.4	79.8
18	83.0	83.4	92.3	80.8
20	83.8	84.8	93.8	81.5
22	84.5	86.0	95.2	82.1
24+	85.1	87.5	98.3	83.2
AVERAGE	74.4	71.9	81.8	74.3

COUNTY TABLES

THE COUNTY TABLES ARE INTENDED FOR USE IN COMPILING FOREST RESOURCE ESTIMATES FOR GROUPS OF COUNTIES. BECAUSE THE SAMPLING PROCEDURE USED BY THE FOREST SURVEY WAS INTENDED PRIMARILY TO FURNISH INVENTORY DATA FOR THE SURVEY UNIT AS A WHOLE, INDIVIDUAL COUNTY ESTIMATES HAVE LIMITED AND VARIABLE ACCURACY. AS COUNTY TOTALS ARE BROKEN DOWN BY VARIOUS SUBDIVISIONS, THE POSSIBILITY OF ERROR INCREASES AND IS GREATEST FOR THE SMALLEST ITEMS. THE ORDER OF THIS INCREASE CAN BE COMPUTED WITH THE FORMULA ON PAGE 5.

Table 1.--Area, by land class and county, 1980

County	All land ¹	Forest land				Nonforest land ²
		Total	Commercial forest	Unproductive forest	Productive- reserved	
----- Acres -----						
Alachua	592,947	320,684	309,353	--	11,331	272,263
Baker	373,733	331,860	331,542	--	318	41,873
Bay	493,392	423,722	421,111	2,030	581	69,670
Bradford	186,561	136,299	136,299	--	--	50,262
Brevard	658,846	128,103	119,334	8,739	30	530,743
Broward	777,502	32,473	--	32,473	--	745,029
Calhoun	363,441	301,612	301,612	--	--	61,829
Charlotte	458,729	111,561	65,648	45,913	--	347,168
Citrus	390,791	236,798	236,229	--	569	153,993
Clay	388,548	316,483	315,100	--	1,383	72,065
Collier	1,297,035	743,661	415,191	158,558	169,912	553,374
Columbia	511,587	371,622	366,138	1,096	4,388	139,965
Dade	1,250,756	209,959	--	186,872	23,087	1,040,797
De Soto	405,498	51,980	51,980	--	--	353,518
Dixie	453,981	395,155	395,155	--	--	58,826
Duval	496,061	279,380	277,344	1,359	677	216,681
Escambia	424,754	275,494	268,028	7,087	379	149,260
Flagler	315,108	253,582	250,483	1,345	1,754	61,526
Franklin	350,738	316,998	313,812	2,440	746	33,740
Gadsden	330,251	229,213	228,519	--	694	101,038
Gilchrist	224,901	141,989	141,989	--	--	82,912
Glades	570,440	99,717	88,904	10,813	--	470,723
Gulf	361,423	281,739	280,001	1,149	589	79,684
Hamilton	332,069	242,683	241,382	--	1,301	89,386
Hardee	408,445	86,999	86,492	--	507	321,446
Hendry	745,872	120,181	110,011	9,990	180	625,691
Hernando	313,240	179,228	179,228	--	--	134,012
Highlands	661,215	101,984	95,709	3,042	3,233	559,231
Hillsborough	670,891	145,958	134,226	7,391	4,341	524,933
Holmes	307,994	188,003	187,690	--	313	119,991
Indian River	320,367	44,071	36,925	7,146	--	276,296
Jackson	596,396	300,884	298,467	--	2,417	295,512
Jefferson	388,361	279,130	277,030	--	2,100	109,231
Lafayette	351,465	285,418	285,418	--	--	66,047
Lake	640,554	269,376	263,130	3,159	3,087	371,178
Lee	569,547	171,039	120,016	51,023	--	398,508
Leon	436,954	292,968	290,981	--	1,987	143,986
Levy	721,776	480,089	466,584	895	12,610	241,687
Liberty	536,385	516,581	515,494	--	1,087	19,804
Madison	457,788	297,382	297,353	--	29	160,406
Manatee	479,858	66,378	55,501	5,666	5,211	413,480
Marion	1,035,667	633,423	631,402	302	1,719	402,244
Martin	349,153	54,645	34,201	12,143	8,301	294,508
Monroe	645,715	372,589	--	309,204	63,385	273,126
Nassau	415,037	338,634	337,175	512	947	76,403
Okaloosa	598,961	471,489	470,230	627	632	127,472
Okeechobee	495,998	42,120	40,534	1,586	--	453,878
Orange	584,937	203,638	179,487	--	24,151	381,299
Osceola	867,706	202,656	193,644	--	9,012	665,050
Palm Beach	1,254,622	131,765	--	131,765	--	1,122,857
Pasco	483,683	163,832	163,497	157	178	319,851
Pinellas	180,310	32,054	23,061	7,677	1,316	148,256
Polk	1,191,263	271,189	254,021	14,438	2,730	920,074
Putnam	469,696	363,307	363,204	--	103	106,389
St Johns	396,909	292,696	288,592	2,672	1,432	104,213
St. Lucie	368,443	53,325	51,504	1,586	235	315,118
Santa Rosa	653,397	500,681	500,356	--	325	152,716
Sarasota	369,620	65,159	55,277	1,132	8,750	304,461
Seminole	199,572	90,968	89,037	--	1,931	108,604
Sumter	364,897	170,486	164,859	5,567	60	194,411
Suwannee	440,943	202,759	200,884	--	1,875	238,184
Taylor	668,092	595,277	588,605	6,664	8	72,815
Union	158,611	118,107	118,107	--	--	40,504
Volusia	726,145	517,786	502,361	11,017	4,408	208,359
Wakulla	395,507	340,201	315,027	--	25,174	55,306
Walton	683,559	544,768	541,959	2,633	176	138,791
Washington	387,383	301,899	301,744	--	155	85,484
Total	35,002,026	17,133,889	15,664,177	1,057,868	411,844	17,868,137

¹From U.S. Bureau of the Census and U.S. Geological Survey.²Includes 469,663 acres of water according to survey standards of area classification, but defined by the Geological Survey and Bureau of the Census as land.

Table 2.--Area of commercial forest land, by ownership class and county, 1980

County	All ownerships	Ownership class										Acres	
		National Forest	Misc. Federal	State	County and municipal	Forest industry ¹	Farmer	Miscellaneous private					
								Corporate	Individual				
Alachua	309,353	--	--	3,719	2,330	103,271	69,720	56,830	73,483				
Baker	331,542	75,507	3,678	166	37	127,527	5,081	104,302	15,244				
Bay	421,111	--	21,609	5,147	358	249,761	3,434	78,984	61,818				
Bradford	136,299	--	--	8,029	994	62,065	23,208	9,676	32,327				
Brevard	119,334	--	22,210	--	463	7,200	26,598	33,847	29,016				
Broward	--	--	--	--	--	--	--	--	--				
Calhoun	301,612	--	--	37	27	150,493	45,314	60,426	45,315				
Charlotte	65,648	--	--	140	887	--	--	38,014	26,607				
Citrus	236,229	--	3,233	40,804	342	--	13,714	84,885	93,251				
Clay	315,100	--	640	45,047	927	80,168	23,402	73,027	91,889				
Collier	415,191	--	--	--	2,530	--	153,435	52,903	206,323				
Columbia	366,138	77,256	102	45	226	69,627	66,901	47,121	104,860				
Dade	--	--	--	--	--	--	--	--	--				
De Soto	51,980	--	31	731	130	--	20,435	22,989	7,664				
Dixie	395,155	--	--	5	285	372,484	5,596	1,399	15,386				
Duval	277,344	--	15,910	1,235	4,516	44,381	17,205	54,081	140,016				
Escambia	268,028	--	3,017	855	88	80,006	18,920	79,464	85,678				
Flagler	250,483	--	--	129	519	52,050	16,817	70,029	110,939				
Franklin	313,812	21,969	7,320	9,734	766	247,665	2,512	2,512	21,334				
Gadsden	228,519	--	--	9,948	146	82,575	67,923	38,207	29,720				
Gilchrist	141,989	--	--	21	267	34,396	35,937	16,336	55,032				
Glades	88,904	--	205	--	15	--	2,957	79,814	5,913				
Gulf	280,001	--	464	15,773	35	221,220	2,501	27,505	12,503				
Hamilton	241,382	--	--	27	28	87,799	30,552	8,729	114,247				
Hardee	86,492	--	--	675	76	--	36,746	44,912	4,083				
Hendry	110,011	--	6,100	--	46	--	31,160	67,512	5,193				
Hernando	179,228	--	3,529	32,430	1,887	--	10,876	70,691	59,815				
Highlands	95,709	--	22,500	978	355	--	11,980	35,937	23,959				
Hillsborough	134,226	--	930	15,628	2,422	--	2,680	72,364	40,202				
Holmes	187,690	--	499	175	434	55,843	81,269	--	49,470				
Indian River	36,925	--	--	517	446	--	14,983	8,991	11,988				
Jackson	298,467	--	5,209	744	73	62,896	83,472	48,691	97,382				
Jefferson	277,030	--	2,200	--	348	133,324	66,925	15,628	58,605				
Lafayette	285,418	--	--	36	426	189,618	37,167	10,137	48,034				

Continued

Table 2.--Area of commercial forest land, by ownership class and county, 1980 (Continued)

County	All ownerships	Ownership class										Miscellaneous private Corporate ¹ Individual
		National Forest	Misc. Federal	State	County and municipal	Forest industry ¹	Farmer	Acres				
Lake	263,130	64,104	280	13,180	356	318	35,952				66,767	82,173
Lee	120,016	--	--	--	--	--	38,405				38,407	43,204
Leon	290,981	103,938	--	6,735	2,147	44,590	49,704				43,488	40,379
Levy	466,584	--	--	51	691	235,730	29,230				66,155	134,727
Liberty	515,494	255,033	--	--	--	173,832	30,135				33,894	22,600
Madison	297,353	--	--	14	66	159,207	85,145				3,041	49,880
Manatee	55,501	--	--	88	--	--	12,315				27,708	15,390
Marion	631,402	252,595	3,000	24,957	1,053	70,898	64,102				113,727	101,070
Martin	34,201	--	--	45	247	--	2,422				14,533	16,954
Monroe	--	--	--	--	--	--	--				--	--
Nassau	337,175	--	28	2,287	1,034	174,538	3,659				13,955	141,674
Okaloosa	470,230	--	209,540	59,457	822	44,358	13,304				19,957	122,792
Okeechobee	40,534	--	--	187	--	--	27,933				6,207	6,207
Orange	179,487	--	540	200	854	--	18,402				88,949	70,542
Osceola	193,644	--	--	5,900	314	--	39,600				110,873	36,957
Palm Beach	--	--	--	--	--	--	--				--	--
Pasco	163,497	--	--	21,780	1,881	29,169	33,203				44,263	33,201
Pinellas	23,061	--	--	--	573	--	4,497				13,493	4,498
Polk	254,021	--	15,000	17,965	1,862	--	49,029				115,366	54,799
Putnam	363,204	20,689	4,463	7,490	639	71,447	14,888				115,381	128,207
St. Johns	288,592	--	--	--	258	74,161	6,895				59,482	147,796
St. Lucie	51,504	--	--	76	158	--	3,016				39,207	9,047
Santa Rosa	500,356	--	60,467	119,110	909	166,743	25,943				31,713	95,471
Sarasota	55,277	--	--	--	44	--	2,301				27,619	25,313
Seminole	89,037	--	157	--	1,188	--	19,802				25,456	42,434
Sumter	164,859	--	110	53,522	--	5,360	24,010				48,016	33,841
Suwannee	200,884	--	--	--	496	25,111	77,777				38,043	59,457
Taylor	588,605	--	--	106	275	519,818	3,420				1,710	63,276
Union	118,107	--	--	5,256	350	71,833	19,926				3,322	17,420
Volusia	502,361	--	9,370	7,975	1,668	78,842	30,978				182,427	191,101
Wakulla	315,027	134,666	31,732	88	32	55,903	16,837				21,049	54,720
Walton	541,959	--	136,133	136	95	127,200	68,551				46,900	162,944
Washington	301,744	--	--	2,155	241	53,375	73,697				98,262	74,014
Total	15,664,177	1,005,757	590,206	541,535	40,682	4,696,802	1,954,498				2,975,313	59,384

¹Not including 740,321 acres of farmer-owned and miscellaneous private lands leased to forest industry.

Table 3.--Area of commercial forest land, by forest-type group and county, 1980

County	All type groups	Forest-type group											Acres	
		White pine-hemlock	Spruce-fir	Longleaf-slash	Loblolly-shortleaf	Oak		Oak-hickory	Oak-gum-cypress ¹	Elm-ash-cotton-wood	Maple-beech-birch			
						pine	ash							
Alachua	309,353	--	--	150,508	1,255	31,446	74,712	51,432	--	--	--			
Baker	331,542	--	--	217,285	--	12,526	3,644	98,087	--	--	--			
Bay	421,111	--	--	311,333	23,312	28,009	30,315	28,142	--	--	--			
Bradford	136,299	--	--	63,269	8,467	25,869	15,524	23,170	--	--	--			
Brevard	119,334	--	--	48,982	9,672	--	11,696	48,984	--	--	--			
Broward	--	--	--	--	--	--	--	--	--	--	--			
Calhoun	301,612	--	--	154,250	13,694	39,460	34,238	44,862	15,108	--	--			
Charlotte	65,648	--	--	39,040	--	3,801	--	22,807	--	--	--			
Citrus	236,229	--	--	51,132	5,486	42,413	79,472	49,008	8,718	--	--			
Clay	315,100	--	--	152,189	28,405	15,032	56,810	62,664	--	--	--			
Collier	415,191	--	--	79,353	--	15,872	5,291	309,384	5,291	--	--			
Columbia	366,138	--	--	208,431	3,818	14,195	50,361	89,333	--	--	--			
Dade	--	--	--	--	--	--	--	--	--	--	--			
De Soto	51,980	--	--	10,216	--	2,554	12,805	26,405	--	--	--			
Dixie	395,155	--	--	178,781	14,189	26,231	52,544	123,410	--	--	--			
Duval	277,344	--	--	145,541	20,369	33,004	37,851	40,579	--	--	--			
Escambia	268,028	--	--	152,269	11,943	59,628	15,136	25,267	3,785	--	--			
Flagler	250,483	--	--	138,818	6,288	28,165	11,081	66,131	--	--	--			
Franklin	313,812	--	--	213,763	3,538	17,430	24,203	54,878	--	--	--			
Gadsden	228,519	--	--	35,349	40,629	41,351	58,829	52,361	--	--	--			
Gilchrist	141,989	--	--	72,595	--	3,267	46,842	19,285	--	--	--			
Glades	88,904	--	--	47,297	--	2,956	--	38,651	--	--	--			
Gulf	280,001	--	--	170,482	6,382	16,643	--	86,494	--	--	--			
Hamilton	241,382	--	--	133,204	13,771	22,051	18,884	53,472	--	--	--			
Hardee	86,492	--	--	16,331	--	8,166	4,834	57,161	--	--	--			
Hendry	110,011	--	--	51,932	--	5,193	5,239	47,647	--	--	--			
Hernando	179,228	--	--	30,898	19,033	26,292	78,986	24,019	--	--	--			
Highlands	95,709	--	--	28,473	--	7,986	10,486	48,764	--	--	--			
Hillsborough	134,226	--	--	17,010	5,102	16,080	21,442	74,592	--	--	--			
Holmes	187,690	--	--	44,222	27,306	10,490	41,370	64,302	--	--	--			
Indian River	36,925	--	--	15,429	--	8,991	5,994	6,511	--	--	--			
Jackson	398,467	--	--	60,422	35,088	20,941	107,382	71,156	3,478	--	--			
Jefferson	277,030	--	--	61,586	29,663	30,458	52,705	102,618	--	--	--			
Lafayette	285,418	--	--	115,486	27,074	37,218	31,190	74,450	--	--	--			

Continued

Table 3.--Area of commercial forest land, by forest-type group and county, 1980 (Continued)

County	All type groups	Forest-type group										Acres	
		White pine-hemlock	Spruce-fir	Longleaf-slash	Loblolly-shortleaf	Oak-pine	Oak-hickory	Oak-gum-cypress ¹	Elm-ash-cotton-wood	Maple-beech-birch			
Lake	263,130	--	--	63,048	39,163	33,368	25,673	94,178	7,700	--	--		
Lee	120,016	--	--	72,009	--	4,800	4,801	38,406	--	--	--		
Leon	290,981	--	--	133,997	39,874	32,978	31,151	49,875	3,106	--	--		
Levy	466,584	--	--	183,289	6,959	55,698	103,778	113,631	3,229	--	--		
Liberty	515,494	--	--	247,585	36,690	31,471	20,906	178,842	--	--	--		
Madison	297,353	--	--	106,699	27,341	25,827	54,762	82,724	--	--	--		
Manatee	55,501	--	--	9,235	6,158	3,078	9,236	27,794	--	--	--		
Marion	631,402	--	--	125,705	232,649	64,730	141,971	62,576	3,771	--	--		
Martin	34,201	--	--	14,824	--	2,423	4,844	12,110	--	--	--		
Monroe	--	--	--	--	--	--	--	--	--	--	--		
Nassau	337,175	--	--	151,733	24,810	39,743	10,808	110,081	--	--	--		
Okaloosa	470,230	--	--	196,149	54,669	87,754	70,768	60,890	--	--	--		
Okeechobee	40,534	--	--	12,415	--	--	--	25,016	3,103	--	--		
Orange	179,487	--	--	44,533	24,536	6,134	15,335	88,949	--	--	--		
Osceola	193,644	--	--	34,320	5,279	10,559	21,120	122,366	--	--	--		
Palm Beach	--	--	--	--	--	--	--	--	--	--	--		
Pasco	163,497	--	--	28,574	--	14,177	43,258	77,488	--	--	--		
Pinellas	23,061	--	--	9,568	--	8,996	--	4,497	--	--	--		
Polk	254,021	--	--	51,095	2,885	20,188	32,847	141,238	5,768	--	--		
Putnam	363,204	--	--	174,220	40,852	29,957	69,422	48,753	--	--	--		
St. Johns	288,592	--	--	134,390	25,855	16,639	17,499	94,209	--	--	--		
St. Lucie	51,504	--	--	27,219	3,016	3,016	--	18,253	--	--	--		
Santa Rosa	500,356	--	--	317,753	9,100	68,981	26,322	78,200	--	--	--		
Sarasota	55,277	--	--	20,714	--	2,301	2,301	29,961	--	--	--		
Seminole	89,037	--	--	17,129	--	19,802	19,801	32,305	--	--	--		
Sumter	164,859	--	--	37,992	12,003	12,922	34,351	65,361	2,230	--	--		
Suwannee	200,884	--	--	80,042	9,511	15,789	76,520	19,022	--	--	--		
Taylor	588,605	--	--	300,615	40,843	10,164	38,527	198,456	--	--	--		
Union	118,107	--	--	71,862	--	2,763	9,964	32,704	814	--	--		
Volusia	502,361	--	--	209,422	58,515	46,101	30,978	157,345	--	--	--		
Wakulla	315,027	--	--	162,025	39,181	19,670	52,583	41,568	--	--	--		
Walton	541,959	--	--	205,053	95,593	52,749	101,427	87,137	--	--	--		
Washington	301,744	--	--	81,309	39,159	27,637	62,452	91,187	--	--	--		
Total	15,664,177	--	--	6,540,399	1,229,125	1,424,133	2,133,271	4,271,148	66,101	--	--		

¹Includes 274,282 acres of palm and other tropical forest types.

Table 4.--Area of commercial forest land, by stand-size class and county, 1980

County	All stands	Stand-size class			Nonstocked areas
		Sawtimber	Poletimber	Sapling- seedling	
----- Acres -----					
Alachua	309,353	60,859	108,180	111,901	28,413
Baker	331,542	104,688	82,410	117,516	26,928
Bay	421,111	55,883	85,220	236,247	43,761
Bradford	136,299	29,803	35,223	60,352	10,921
Brevard	119,334	37,451	21,990	27,386	32,507
Broward	--	--	--	--	--
Calhoun	301,612	114,527	67,809	86,449	32,827
Charlotte	65,648	20,033	19,006	7,603	19,006
Citrus	236,229	68,630	30,027	61,542	76,030
Clay	315,100	82,668	76,324	109,323	46,785
Collier	415,191	124,217	142,841	52,903	95,230
Columbia	366,138	109,548	120,915	121,991	13,684
Dade	--	--	--	--	--
De Soto	51,980	26,405	--	7,663	17,912
Dixie	395,155	88,585	131,905	142,552	32,113
Duval	277,344	75,210	100,674	63,610	37,850
Escambia	268,028	102,178	87,628	67,176	11,046
Flagler	250,483	73,025	88,660	61,621	27,177
Franklin	313,812	73,179	45,842	148,737	46,054
Gadsden	228,519	102,554	39,739	73,522	12,704
Gilchrist	141,989	35,887	44,811	26,164	35,127
Glades	88,904	20,692	23,649	29,662	14,901
Gulf	280,001	85,112	40,135	119,824	34,930
Hamilton	241,382	70,939	66,964	92,094	11,385
Hardee	86,492	57,160	4,083	12,325	12,924
Hendry	110,011	53,965	33,193	17,614	5,239
Hernando	179,228	47,213	48,488	39,662	43,865
Highlands	95,709	39,285	16,979	22,466	16,979
Hillsborough	134,226	59,590	26,393	32,162	16,081
Holmes	187,690	59,840	62,868	51,390	13,592
Indian River	36,925	14,985	6,439	5,994	9,507
Jackson	298,467	81,093	108,400	69,703	39,271
Jefferson	277,030	132,120	71,152	55,819	17,939
Lafayette	285,418	60,884	91,372	99,287	33,875
Lake	263,130	112,817	43,258	58,277	48,778
Lee	120,016	4,801	57,610	38,403	19,202
Leon	290,981	133,585	69,046	78,902	9,448
Levy	466,584	163,239	113,782	101,927	87,636
Liberty	515,494	230,966	89,051	145,726	49,751
Madison	297,353	100,708	53,221	114,597	28,827
Manatee	55,501	24,629	6,245	12,314	12,313
Marion	631,402	149,521	193,695	204,456	83,730
Martin	34,201	7,266	5,136	12,111	9,688
Monroe	--	--	--	--	--
Nassau	337,175	72,014	147,464	101,407	16,290
Okaloosa	470,230	179,764	82,598	141,550	66,318
Okeechobee	40,534	25,017	6,207	6,207	3,103
Orange	179,487	58,477	52,679	37,659	30,672
Osceola	193,644	90,373	47,517	34,634	21,120
Palm Beach	--	--	--	--	--
Pasco	163,497	70,763	37,186	12,291	43,257
Pinellas	23,061	5,070	8,995	4,498	4,498
Polk	254,021	105,889	66,336	47,187	34,609
Putnam	363,204	83,421	97,451	102,063	80,269
St. Johns	288,592	67,318	130,682	67,491	23,101
St. Lucie	51,504	21,270	12,063	6,108	12,063
Santa Rosa	500,356	183,384	142,234	148,274	26,464
Sarasota	55,277	13,809	11,507	11,508	18,453
Seminole	89,037	42,589	12,503	22,630	11,315
Sumter	164,859	85,813	25,595	22,738	30,713
Suwannee	200,884	39,382	60,176	69,622	31,704
Taylor	588,605	152,084	191,746	182,084	62,691
Union	118,107	27,098	41,518	46,169	3,322
Volusia	502,361	167,637	137,354	141,402	55,968
Wakulla	315,027	148,563	50,805	93,040	22,619
Walton	541,959	160,911	137,015	153,749	90,284
Washington	301,744	69,690	59,941	115,803	56,310
Total	15,664,177	4,966,076	4,119,935	4,567,087	2,011,079

Table 5.--Area of commercial forest land, by site class and county, 1980

County	All classes	Site class				
		1	2	3	4	5
		Acres				
Alachua	309,353	--	17,389	96,344	170,449	25,171
Baker	331,542	--	--	65,803	243,231	22,508
Bay	421,111	--	--	17,572	179,161	224,378
Bradford	136,299	--	4,025	47,938	68,588	15,748
Brevard	119,334	--	--	4,836	58,205	56,293
Broward	--	--	--	--	--	--
Calhoun	301,612	--	--	60,677	175,247	65,688
Charlotte	65,648	--	--	--	42,839	22,809
Citrus	236,229	--	--	10,609	93,532	132,088
Clay	315,100	--	5,846	40,885	152,155	116,214
Collier	415,191	--	--	5,291	126,973	282,927
Columbia	366,138	--	8,612	107,860	213,620	36,046
Dade	--	--	--	--	--	--
De Soto	51,980	--	--	--	26,406	25,574
Dixie	395,155	--	--	72,344	289,299	33,512
Duval	277,344	--	--	41,634	178,621	57,089
Escambia	268,028	--	--	25,878	189,545	52,605
Flagler	250,483	--	7,096	28,045	188,624	26,718
Franklin	313,812	--	--	3,538	143,043	167,231
Gadsden	228,519	--	7,421	59,752	133,800	27,546
Gilchrist	141,989	--	--	35,153	72,057	44,779
Glades	88,904	--	--	--	56,180	32,724
Gulf	280,001	--	--	10,263	97,876	171,862
Hamilton	241,382	--	2,684	31,233	187,630	19,835
Hardee	86,492	--	--	8,165	45,664	32,663
Hendry	110,011	--	--	--	72,750	37,261
Hernando	179,228	2,719	--	13,371	95,252	67,886
Highlands	95,709	--	--	--	41,785	53,924
Hillsborough	134,226	--	2,680	2,680	79,692	49,174
Holmes	187,690	--	--	44,473	104,452	38,765
Indian River	36,925	--	--	2,996	20,978	12,951
Jackson	298,467	--	--	32,119	211,138	55,210
Jefferson	277,030	--	15,230	57,011	183,341	21,448
Lafayette	285,418	--	--	61,332	172,594	51,492
Lake	263,130	--	2,568	25,668	155,775	79,119
Lee	120,016	--	--	--	14,402	105,614
Leon	290,981	--	3,106	61,489	140,461	85,925
Levy	466,584	--	--	90,999	288,024	87,561
Liberty	515,494	--	--	59,442	242,913	213,139
Madison	297,353	--	3,790	30,856	220,220	42,487
Manatee	55,501	--	--	--	24,629	30,872
Marion	631,402	3,771	41,055	112,759	306,511	167,306
Martin	34,201	--	--	--	12,110	22,091
Monroe	--	--	--	--	--	--
Nassau	337,175	--	2,187	53,035	238,357	43,596
Okaloosa	470,230	--	3,326	40,773	179,829	246,302
Okeechobee	40,534	--	--	--	28,119	12,415
Orange	179,487	--	--	854	95,624	83,009
Osceola	193,644	--	5,280	5,280	106,526	76,558
Palm Beach	--	--	--	--	--	--
Pasco	163,497	--	--	22,162	88,899	52,436
Pinellas	23,061	--	--	--	13,493	9,568
Polk	254,021	--	--	--	160,608	93,413
Putnam	363,204	--	--	60,199	182,293	120,712
St. Johns	288,592	--	--	31,470	216,182	40,940
St. Lucie	51,504	--	--	3,016	30,393	18,095
Santa Rosa	500,356	--	6,001	67,844	283,167	143,344
Sarasota	55,277	--	--	--	27,619	27,658
Seminole	89,037	--	--	5,658	60,749	22,630
Sumter	164,859	--	--	14,695	134,159	16,005
Suwannee	200,884	--	--	28,534	118,514	53,836
Taylor	588,605	--	7,426	69,719	367,447	144,013
Union	118,107	--	3,321	28,746	74,431	11,609
Volusia	502,361	--	6,884	32,936	338,360	124,181
Wakulla	315,027	--	3,106	35,428	149,006	127,487
Walton	541,959	3,854	6,330	27,338	317,273	187,164
Washington	301,744	--	3,071	21,530	165,442	111,701
Total	15,664,177	10,344	168,434	1,918,232	8,886,262	4,680,905

Table 6.--Area of commercial forest land, by stocking classes of growing-stock trees, by county, 1980

County	All classes	Stocking percentage ¹					Less than 16.7
		Over 130	100 - 130	60 - 99	16.7 - 59		
		Acres					
Alachua	309,353	10,726	111,447	100,335	58,432	28,413	
Baker	331,542	23,938	122,039	110,291	48,346	26,928	
Bay	421,111	--	113,265	155,183	108,902	43,761	
Bradford	136,299	3,448	51,429	43,242	27,259	10,921	
Brevard	119,334	4,835	22,941	30,036	29,015	32,507	
Broward	--	--	--	--	--	--	
Calhoun	301,612	3,777	70,169	106,490	88,349	32,827	
Charlotte	65,648	3,801	15,205	8,630	19,006	19,006	
Citrus	236,229	5,485	20,323	31,076	103,315	76,030	
Clay	315,100	15,867	80,765	112,267	59,416	46,785	
Collier	415,191	15,873	74,071	100,518	129,499	95,230	
Columbia	366,138	14,554	95,750	172,208	69,942	13,684	
Dade	--	--	--	--	--	--	
De Soto	51,980	--	3,286	130	30,652	17,912	
Dixie	395,155	14,190	107,823	138,254	102,775	32,113	
Duval	277,344	10,051	86,709	79,045	63,689	37,850	
Escambia	268,028	10,741	62,496	122,498	61,247	11,046	
Flagler	250,483	18,768	80,473	68,639	55,426	27,177	
Franklin	313,812	8,127	89,278	120,114	50,239	46,054	
Gadsden	228,519	16,981	72,455	80,401	45,978	12,704	
Gilchrist	141,989	17,171	24,369	43,432	21,890	35,127	
Glades	88,904	2,956	5,912	23,648	41,487	14,901	
Gulf	280,001	10,916	44,930	95,447	93,778	34,930	
Hamilton	241,382	5,793	75,892	97,998	50,314	11,385	
Hardee	86,492	--	8,166	32,739	32,663	12,924	
Hendry	110,011	10,386	15,580	25,967	52,839	5,239	
Hernando	179,228	2,719	13,371	56,645	62,628	43,865	
Highlands	95,709	2,500	20,972	23,443	31,815	16,979	
Hillsborough	134,226	23,970	13,142	34,691	46,342	16,081	
Holmes	187,690	--	39,558	82,088	52,452	13,592	
Indian River	36,925	2,997	2,997	3,443	17,981	9,507	
Jackson	298,467	7,029	40,017	111,143	101,007	39,271	
Jefferson	277,030	14,940	64,029	125,103	55,019	17,939	
Lafayette	285,418	10,143	74,450	81,194	85,756	33,875	
Lake	263,130	5,415	58,299	78,824	71,814	48,778	
Lee	120,016	--	19,203	24,004	57,607	19,202	
Leon	290,981	6,212	82,340	130,030	62,951	9,448	
Levy	466,584	29,695	95,222	142,363	111,668	87,636	
Liberty	515,494	16,672	111,381	201,767	135,923	49,751	
Madison	297,353	25,522	44,780	117,660	80,564	28,827	
Manatee	55,501	--	3,079	9,237	30,872	12,313	
Marion	631,402	3,043	122,325	222,586	199,718	83,730	
Martin	34,201	--	9,935	2,468	12,110	9,688	
Monroe	--	--	--	--	--	--	
Nassau	337,175	14,791	108,912	117,584	79,598	16,290	
Okaloosa	470,230	3,380	70,346	133,392	196,794	66,318	
Okeechobee	40,534	3,104	12,415	12,601	9,311	3,103	
Orange	179,487	9,201	39,872	39,973	59,769	30,672	
Osceola	193,644	29,037	47,515	40,219	55,753	21,120	
Palm Beach	--	--	--	--	--	--	
Pasco	163,497	11,946	40,985	40,839	26,470	43,257	
Pinellas	23,061	--	4,498	8,995	5,070	4,498	
Polk	254,021	25,545	54,059	61,556	78,252	34,609	
Putnam	363,204	29,505	94,831	92,161	66,438	80,269	
St. Johns	288,592	21,032	101,121	105,152	38,186	23,101	
St. Lucie	51,504	--	3,092	12,064	24,285	12,063	
Santa Rosa	500,356	15,552	115,266	189,154	153,920	26,464	
Sarasota	55,277	--	--	11,507	25,317	18,453	
Seminole	89,037	--	9,673	25,459	42,590	11,315	
Sumter	164,859	22,450	27,019	37,403	47,274	30,713	
Suwannee	200,884	15,853	56,938	58,345	38,044	31,704	
Taylor	588,605	34,834	154,384	199,577	137,119	62,691	
Union	118,107	5,524	46,169	44,841	18,251	3,322	
Volusia	502,361	26,752	133,760	134,673	151,208	55,968	
Wakulla	315,027	7,358	50,819	155,483	78,748	22,619	
Walton	541,959	7,710	58,371	219,753	165,841	90,284	
Washington	301,744	--	56,627	99,447	89,360	56,310	
Total	15,664,177	662,815	3,556,545	5,185,455	4,248,283	2,011,079	

¹See stocking standards on page 12.

Table 7.--Volume of sawtimber and growing stock on commercial forest land, by species group and county, 1980

County	Sawtimber					Growing stock				
	All species	Pine	Other softwood	Soft hardwood	Hard hardwood	All species	Pine	Other softwood	Soft hardwood	Hard hardwood
	Thousand board feet					Thousand cubic feet				
Alachua	610,058	287,321	100,818	78,505	143,414	275,385	169,151	29,499	34,922	41,813
Baker	1,127,330	711,959	185,821	226,151	3,399	370,840	225,237	62,434	81,739	1,430
Bay	326,803	249,255	22,837	48,985	5,726	136,332	107,229	9,264	14,093	5,746
Bradford	310,370	239,648	11,460	22,428	36,834	117,974	92,096	6,165	12,693	7,020
Brevard	266,132	103,247	26,908	45,573	90,404	84,622	42,894	11,085	13,493	17,150
Broward	--	--	--	--	--	--	--	--	--	--
Calhoun	696,841	412,367	46,697	130,452	107,325	222,155	137,478	13,215	40,013	31,449
Charlotte	101,750	61,561	40,189	--	--	44,081	22,887	20,566	--	628
Citrus	427,591	144,670	136,817	60,941	85,163	119,459	38,008	34,400	20,296	26,755
Clay	632,570	317,316	65,051	127,115	123,088	239,641	132,894	19,134	47,899	39,714
Collier	793,189	157,103	567,483	39,647	28,956	306,776	54,146	225,139	17,816	9,675
Columbia	1,031,563	680,620	163,768	134,936	52,239	359,808	210,250	53,384	69,584	26,590
Dade	--	--	--	--	--	--	--	--	--	--
De Soto	87,027	19,565	16,258	31,036	20,168	27,211	4,705	4,871	12,819	4,816
Dixie	823,221	189,303	218,016	177,123	238,779	313,114	82,986	78,057	68,974	83,097
Duval	726,471	389,182	20,659	162,616	154,014	266,340	144,818	10,475	63,536	47,511
Escambia	912,555	513,354	12,151	276,560	110,490	292,966	173,636	2,846	82,357	34,127
Flagler	740,089	286,165	222,058	87,206	144,660	256,613	121,180	74,973	32,740	27,720
Franklin	575,407	193,193	136,187	219,736	26,291	185,012	66,266	42,123	67,205	9,418
Gadsden	925,157	422,320	--	264,653	238,184	269,118	112,576	--	83,591	72,951
Gilchrist	200,032	96,963	54,129	10,252	38,688	109,765	78,516	15,511	3,246	12,492
Glades	173,319	65,960	92,480	4,821	10,058	53,799	19,580	27,199	4,825	2,195
Gulf	747,784	262,433	142,580	260,541	82,230	232,321	75,433	45,781	85,967	25,140
Hamilton	569,767	340,035	52,576	81,400	95,756	214,096	109,183	30,110	49,430	25,373
Hardee	378,846	152,193	83,712	30,026	112,915	95,509	33,857	25,055	11,641	24,956
Hendry	391,245	103,586	231,719	23,270	32,670	123,451	36,031	71,756	7,543	8,121
Hernando	419,278	93,464	18,852	140,837	166,125	132,944	30,442	4,771	50,563	47,168
Highlands	308,135	73,197	143,774	68,106	23,058	90,004	20,142	35,122	27,172	7,568
Hillsborough	500,689	82,370	195,441	88,347	134,531	170,325	21,912	84,314	29,620	34,479
Holmes	414,319	209,208	25,802	122,565	56,744	154,681	71,222	6,041	56,435	20,983
Indian River	121,731	60,914	48,930	--	11,887	29,196	14,634	12,241	216	2,105
Jackson	799,921	307,965	45,207	191,567	255,182	284,588	105,967	12,366	78,935	87,320
Jefferson	1,165,322	528,515	115,242	265,767	255,798	336,818	130,275	32,287	100,685	73,571
Lafayette	478,225	223,433	114,750	40,665	99,377	194,357	97,238	40,741	30,128	26,250

Continued

Table 7.--Volume of sawtimber and growing stock on commercial forest land, by species group and county, 1980 (Continued)

County	Sawtimber					Growing stock				
	All species	Pine	Other softwood	Soft hardwood	Hard hardwood	All species	Pine	Other softwood	Soft hardwood	Hard hardwood
	Thousand board feet	Thousand board feet	Thousand board feet	Thousand board feet	Thousand board feet	Thousand cubic feet ¹	Thousand cubic feet ¹	Thousand cubic feet ¹	Thousand cubic feet ¹	Thousand cubic feet ¹
Lake	676,479	302,469	127,659	154,184	92,167	227,430	80,141	57,185	62,276	27,828
Lee	107,332	26,443	80,889	--	--	55,163	19,230	35,933	--	--
Leon	1,006,439	606,288	9,067	222,187	168,897	306,957	171,043	4,151	75,301	56,462
Levy	1,288,180	516,403	261,150	200,721	309,906	459,894	201,063	91,213	79,585	88,033
Liberty	1,925,484	850,827	365,545	432,238	276,874	525,455	234,837	90,427	135,128	65,063
Madison	857,038	258,901	178,309	303,487	116,341	285,767	85,847	58,033	107,213	34,674
Manatee	120,573	43,717	--	57,083	19,773	29,778	8,993	--	16,361	4,424
Marion	1,506,058	931,198	65,653	140,324	368,883	515,098	340,859	17,027	56,236	100,976
Martin	33,764	32,810	--	--	954	10,323	9,466	--	--	857
Monroe	--	--	--	--	--	--	--	--	--	--
Nassau	884,704	492,714	87,420	176,352	128,218	340,146	171,283	31,825	94,670	42,368
Okaloosa	1,149,692	944,741	60,706	73,829	70,416	315,594	237,564	14,561	41,350	22,119
Okeechobee	154,012	28,146	56,287	62,226	7,353	52,896	11,893	16,369	22,474	2,160
Orange	468,011	126,876	161,675	141,237	38,223	169,505	39,688	62,975	54,470	12,372
Osceola	739,244	189,696	371,212	122,142	56,194	249,107	41,032	139,337	48,379	20,359
Palm Beach	--	--	--	--	--	--	--	--	--	--
Pasco	590,663	157,638	174,847	94,167	164,011	204,303	41,239	77,159	39,727	46,178
Pinellas	52,553	28,287	18,647	5,619	--	16,934	8,449	6,671	1,814	--
Polk	723,630	186,009	251,158	155,241	131,222	272,578	47,669	119,688	68,615	36,606
Putnam	935,511	511,228	43,179	206,517	174,587	343,468	214,726	12,022	70,246	46,474
St. Johns	767,547	328,221	102,906	153,731	182,689	308,412	147,314	33,747	76,739	50,612
St. Lucie	64,847	55,480	5,411	--	3,956	19,668	14,802	1,583	--	3,283
Santa Rosa	1,444,564	1,054,809	120,659	198,005	71,091	466,973	317,635	36,203	87,358	25,777
Sarasota	60,617	34,170	--	9,409	17,038	19,412	11,838	--	3,664	3,910
Seminole	222,054	87,236	--	60,008	74,810	59,047	22,496	276	17,042	19,233
Sumter	631,638	72,268	199,453	127,262	232,655	209,228	26,287	72,311	46,561	64,069
Suwannee	339,596	154,845	2,589	52,200	129,962	146,173	91,817	472	19,837	34,047
Taylor	1,179,524	350,602	268,567	219,672	340,683	497,741	195,275	87,991	101,190	113,285
Union	299,422	169,519	39,164	86,757	3,982	133,926	79,120	16,235	34,657	3,914
Volusia	1,264,618	635,635	370,413	165,785	92,785	455,615	214,209	138,489	77,530	25,387
Wakulla	963,172	567,157	22,093	158,937	214,985	276,155	153,666	5,336	55,063	62,090
Walton	1,135,832	764,907	48,298	275,481	47,146	383,275	248,740	11,533	102,743	20,259
Washington	475,897	172,706	112,629	104,516	86,046	154,566	53,223	26,108	44,770	30,465
Total	39,851,432	18,660,331	6,963,957	7,621,144	6,606,000	13,619,888	6,324,313	2,405,785	2,941,175	1,948,615

¹Factors for converting to cords are shown on page 12.

Table 8.--Net annual growth of sawtimber and growing stock on commercial forest land,
by species group and county, 1979

County	Sawtimber					Growing stock				
	All species	Pine	Other softwood	Soft hardwood	Hard hardwood	All species	Pine	Other softwood	Soft hardwood	Hard hardwood
	Thousand board feet	Thousand board feet	Thousand board feet	Thousand board feet	Thousand board feet	Thousand cubic feet	Thousand cubic feet	Thousand cubic feet	Thousand cubic feet	Thousand cubic feet
Alachua	65,654	50,286	3,091	5,409	6,868	21,971	18,383	711	1,100	1,777
Baker	77,450	62,722	7,279	7,342	107	23,942	19,402	1,544	2,785	211
Bay	27,961	25,854	684	1,012	411	14,527	13,598	332	254	343
Bradford	24,374	21,143	458	2,038	735	10,158	9,344	179	491	144
Brevard	17,152	11,632	1,863	1,943	1,714	6,459	5,349	255	466	389
Broward	--	--	--	--	--	--	--	--	--	--
Calhoun	55,752	39,351	1,431	4,576	10,394	13,931	11,166	265	1,286	1,214
Charlotte	5,277	3,829	1,448	--	--	2,041	1,470	516	--	55
Citrus	20,586	9,771	5,318	2,207	3,290	5,926	3,625	939	547	815
Clay	47,455	34,615	2,128	5,790	4,922	16,469	12,513	718	1,888	1,350
Collier	36,334	13,704	13,619	6,027	2,984	9,532	3,023	4,165	1,507	837
Columbia	85,341	68,165	4,774	7,200	5,202	22,552	16,298	1,311	3,249	1,694
Dade	--	--	--	--	--	--	--	--	--	--
De Soto	5,107	1,560	1,258	1,634	655	920	220	123	426	151
Dixie	52,712	20,910	8,704	9,070	14,028	21,454	12,095	2,031	3,225	4,103
Duval	58,260	39,560	1,011	9,323	8,366	17,834	13,105	374	2,584	1,771
Escambia	59,374	44,367	360	7,947	6,700	16,361	12,671	81	1,912	1,697
Flagler	42,489	26,500	9,475	3,531	2,983	18,482	14,516	2,015	1,369	582
Franklin	25,383	13,453	4,951	6,095	884	10,180	6,690	1,318	1,852	320
Gadsden	55,860	35,393	--	9,513	10,954	14,430	9,059	--	2,561	2,810
Gilchrist	28,599	23,826	2,193	381	2,199	10,099	8,862	380	250	607
Glades	6,328	2,304	2,552	1,007	465	2,663	1,735	420	389	119
Gulf	37,995	19,982	5,701	8,545	3,767	9,737	5,982	1,446	1,568	741
Hamilton	38,779	26,876	2,462	5,131	4,310	16,075	11,457	940	2,175	1,503
Hardee	16,866	9,626	3,206	1,006	3,028	3,386	1,552	632	333	869
Hendry	18,541	8,131	4,888	3,413	2,109	4,372	2,182	1,184	513	493
Hernando	26,397	12,125	1,115	6,058	7,099	5,418	2,393	168	1,434	1,423
Highlands	16,676	8,024	4,543	2,836	1,273	4,205	1,942	712	1,119	432
Hillsborough	28,123	7,669	12,453	2,797	5,204	5,351	1,436	2,117	887	911
Holmes	28,749	21,579	468	4,065	2,637	8,190	4,990	86	1,959	1,155
Indian River	6,127	4,100	1,793	--	234	1,272	945	292	2	33
Jackson	56,867	34,297	1,573	7,102	13,895	13,175	7,344	382	2,128	3,321
Jefferson	57,571	36,812	2,517	9,630	8,612	12,303	6,609	462	2,657	2,575
Lafayette	40,053	27,527	4,161	2,890	5,475	14,743	10,789	1,061	1,890	1,003

Continued

Table 8.--Net annual growth of sawtimber and growing stock on commercial forest land,
by species group and county, 1979 (Continued)

County	Sawtimber					Growing stock				
	All species	Pine	Other : softwood	Soft : hardwood	Hard : hardwood	All species	Pine	Other : softwood	Soft : hardwood	Hard : hardwood
	Thousand board feet	Thousand board feet	Thousand board feet	Thousand board feet	Thousand board feet	Thousand cubic feet	Thousand cubic feet	Thousand cubic feet	Thousand cubic feet	Thousand cubic feet
Lake	43,429	26,482	6,199	7,341	3,407	12,070	6,827	1,626	2,682	935
Lee	6,142	3,407	2,735	--	--	2,184	1,652	532	--	--
Leon	62,161	44,302	398	7,467	9,994	15,684	10,925	126	2,119	2,514
Levy	84,635	47,775	10,405	12,603	13,852	28,452	18,403	2,741	3,509	3,799
Liberty	96,163	64,311	9,860	12,977	9,015	22,222	15,343	1,778	3,339	1,762
Madison	53,071	28,294	6,600	11,411	6,766	13,955	7,840	1,208	3,435	1,472
Manatee	4,335	2,214	--	1,596	525	801	319	--	365	117
Marion	124,655	101,236	1,756	6,398	15,265	36,229	29,973	374	2,582	3,300
Martin	3,516	3,128	--	--	388	469	409	--	--	60
Monroe	--	--	--	--	--	--	--	--	--	--
Nassau	71,670	52,043	2,961	10,308	6,358	23,748	16,649	909	3,822	2,368
Okaloosa	66,442	56,073	4,381	2,634	3,354	16,068	12,953	373	1,438	1,304
Okeechobee	10,140	3,586	2,905	3,436	213	2,978	1,863	424	634	57
Orange	26,312	10,778	6,974	6,420	2,140	7,083	3,114	1,777	1,853	339
Osceola	32,719	10,740	15,560	4,603	1,816	8,552	2,001	4,023	1,868	660
Palm Beach	--	--	--	--	--	--	--	--	--	--
Pasco	29,666	10,118	9,209	5,244	5,095	6,935	2,186	2,004	1,429	1,316
Pinellas	4,373	3,006	1,219	148	--	662	484	144	34	--
Polk	44,199	15,120	15,191	8,891	4,997	11,604	3,223	3,844	3,763	774
Putnam	66,779	51,335	1,636	8,225	5,583	26,018	21,433	360	2,884	1,341
St. Johns	58,881	39,100	3,772	8,286	7,723	22,775	16,635	1,149	3,078	1,913
St. Lucie	4,237	3,782	280	--	175	1,286	1,046	39	--	201
Santa Rosa	85,096	69,619	4,944	6,469	4,064	26,410	20,977	1,510	2,544	1,379
Sarasota	4,053	3,174	--	365	514	1,349	1,122	--	134	93
Seminole	12,258	7,775	141	2,244	2,098	2,172	1,157	14	454	547
Sumter	29,023	6,414	9,049	6,363	7,197	7,890	2,903	1,786	1,359	1,842
Suwannee	32,260	25,640	114	2,272	4,234	12,938	10,909	19	568	1,442
Taylor	87,518	41,366	12,357	12,706	21,089	35,538	22,869	3,165	4,278	5,226
Union	25,702	19,331	2,150	3,524	697	10,866	8,759	450	1,537	120
Volusia	96,198	67,354	14,401	9,135	5,308	27,202	18,927	3,591	3,700	984
Wakulla	58,466	43,850	709	5,424	8,483	12,542	8,301	172	1,428	2,641
Walton	85,987	73,235	918	9,265	2,569	22,218	18,843	147	2,136	1,092
Washington	20,175	11,103	2,457	2,941	3,674	8,440	5,102	417	1,220	1,701
Total	2,600,453	1,711,384	266,758	324,214	298,097	785,498	543,892	61,861	102,998	76,747

Table 9.--Annual removals of sawtimber and growing stock on commercial forest land,
by species group and county, 1979

County	Sawtimber					Growing stock				
	All species	Pine	Other softwood	Soft hardwood	Hard hardwood	All species	Pine	Other softwood	Soft hardwood	Hard hardwood
	Thousand board feet	Thousand board feet	Thousand board feet	Thousand board feet	Thousand board feet	Thousand cubic feet	Thousand cubic feet	Thousand cubic feet	Thousand cubic feet	Thousand cubic feet
Alachua	48,318	22,646	--	9,589	16,083	16,022	10,158	--	2,478	3,386
Baker	65,312	65,312	--	--	--	20,636	20,441	64	131	--
Bay	33,045	33,045	--	--	--	9,871	9,786	--	85	--
Bradford	46,822	45,188	423	--	1,211	15,289	14,063	1,035	--	191
Brevard	2,270	1,033	--	1,237	--	815	573	--	242	--
Broward	--	--	--	--	--	--	--	--	--	--
Calhoun	13,530	13,530	--	--	--	5,587	5,539	48	--	--
Charlotte	4,307	4,307	--	--	--	930	930	--	--	--
Citrus	7,755	5,996	1,046	215	498	1,704	1,086	186	130	302
Clay	18,891	16,914	1,159	818	--	7,517	6,781	247	489	--
Collier	30,015	1,198	3,855	7,069	17,893	9,743	1,270	1,248	3,183	4,042
Columbia	38,921	32,346	685	--	5,890	12,850	10,719	118	614	1,399
Dade	--	--	--	--	--	--	--	--	--	--
De Soto	974	564	--	--	410	208	103	--	--	105
Dixie	88,972	64,865	3,348	7,052	13,707	24,507	18,306	985	1,825	3,391
Duval	28,088	20,590	--	681	6,817	8,144	6,675	--	146	1,323
Escambia	34,580	33,980	--	--	600	8,819	8,487	--	--	332
Flagler	60,225	53,252	3,758	3,215	--	22,229	19,094	1,631	1,504	--
Franklin	22,131	15,234	1,983	4,914	--	8,548	6,656	596	1,214	82
Gadsden	43,906	29,595	--	6,026	8,285	10,770	6,205	--	2,054	2,511
Gilchrist	1,895	1,169	--	--	726	4,757	4,601	--	--	156
Glades	1,957	1,957	--	--	--	379	379	--	--	--
Gulf	35,845	26,675	--	7,533	1,637	9,534	7,251	--	1,677	606
Hamilton	25,589	18,010	6,011	1,568	--	10,726	8,155	1,835	736	--
Hardee	--	--	--	--	--	--	--	--	--	--
Hendry	5,357	2,893	2,464	--	--	2,323	717	1,273	333	--
Hernando	6,508	3,487	--	1,941	1,080	1,534	776	--	531	227
Highlands	4,876	4,876	--	--	--	1,402	869	--	533	--
Hillsborough	9,997	6,433	591	2,973	--	2,725	1,226	553	946	--
Holmes	23,600	14,781	--	6,247	2,572	8,738	6,183	--	1,931	624
Indian River	5,631	5,631	--	--	--	1,389	1,389	--	--	--
Jackson	44,832	29,647	--	4,757	10,428	16,364	12,350	--	1,276	2,738
Jefferson	44,474	28,046	449	6,759	9,220	12,057	8,276	96	1,344	2,341
Lafayette	29,530	24,325	476	4,020	709	8,740	7,262	243	957	278

Continued

Table 9.--Annual removals of sawtimber and growing stock on commercial forest land,
by species group and county, 1979 (Continued)

County	Sawtimber					Growing stock				
	All species	Pine	Other : softwood	Soft : hardwood	Hard : hardwood	All species	Pine	Other : softwood	Soft : hardwood	Hard : hardwood
	Thousand board feet	Thousand board feet	Thousand board feet	Thousand board feet	Thousand board feet	Thousand cubic feet	Thousand cubic feet	Thousand cubic feet	Thousand cubic feet	Thousand cubic feet
Lake	19,223	12,727	--	2,773	3,723	5,042	3,249	42	547	1,204
Lee	2,307	2,307	--	--	--	2,501	2,501	--	--	--
Leon	52,654	44,747	--	934	6,973	12,246	9,717	--	579	1,950
Levy	66,104	46,599	4,096	3,756	11,653	21,588	14,259	1,837	2,015	3,477
Liberty	24,950	13,049	1,732	3,416	6,753	7,214	4,782	316	727	1,389
Madison	38,811	32,112	2,493	1,641	2,565	17,244	14,262	881	894	1,207
Manatee	--	--	--	--	--	--	--	--	--	--
Marion	63,597	59,779	281	2,977	560	19,214	18,149	154	791	120
Martin	2,104	2,104	--	--	--	522	522	--	--	--
Monroe	--	--	--	--	--	--	--	--	--	--
Nassau	74,761	60,629	--	6,669	7,463	23,731	20,281	--	1,801	1,649
Okaloosa	47,861	40,411	--	2,004	5,446	9,839	8,171	--	399	1,269
Okeechobee	1,289	1,289	--	--	--	425	425	--	--	--
Orange	24,615	11,186	8,439	2,005	2,985	5,376	2,340	1,874	484	678
Osceola	21,849	6,731	13,111	1,408	599	5,680	1,653	3,244	331	452
Palm Beach	--	--	--	--	--	--	--	--	--	--
Pasco	7,316	5,843	925	--	548	1,467	1,063	202	88	114
Pinellas	3,417	3,417	--	--	--	910	701	--	--	209
Polk	29,251	22,452	2,145	2,072	2,582	8,598	6,505	599	980	514
Putnam	26,412	24,062	--	--	2,350	6,654	6,303	--	--	351
St. Johns	28,762	25,661	874	567	1,660	10,049	8,615	508	584	342
St. Lucie	5,228	5,228	--	--	--	1,447	1,447	--	--	--
Santa Rosa	40,294	40,294	--	--	--	11,057	11,057	--	--	--
Sarasota	10,050	10,050	--	--	--	2,223	2,223	--	--	--
Seminole	5,873	2,050	1,592	1,000	1,231	1,814	776	295	350	393
Sumter	10,859	1,678	7,942	1,239	--	2,800	960	1,558	282	--
Suwannee	17,464	16,387	--	--	1,077	8,485	7,754	--	83	648
Taylor	116,045	94,773	9,009	8,062	4,201	35,123	28,461	2,260	2,233	2,169
Union	17,477	10,921	417	2,316	3,823	6,434	4,493	393	778	770
Volusia	56,187	40,491	11,420	4,276	--	14,690	11,359	2,328	1,003	--
Wakulla	45,761	44,677	344	358	382	13,527	13,092	64	93	278
Walton	33,006	25,954	--	2,721	4,331	10,909	7,776	--	1,623	1,510
Washington	33,006	27,720	--	3,662	1,624	10,046	7,710	--	1,272	1,064
Total	1,754,686	1,362,853	91,068	130,470	170,295	541,712	426,912	26,713	42,296	45,791

TABLE 10. --AREA OF COMMERCIAL FOREST LAND, BY FOREST TYPE AND OWNERSHIP CLASS, 1980

FOREST TYPE	ALL OWNERSHIPS	OWNERSHIP CLASS				
		NATIONAL FOREST	OTHER PUBLIC	FOREST INDUSTRY	FARMER	MISC. PRIVATE
- - - - - ACRES - - - - -						
SOFTWOOD TYPES:						
WHITE PINE-HEMLOCK	--	--	--	--	--	--
SPRUCE-FIR	--	--	--	--	--	--
LONGLEAF PINE	1,242,811	224,648	222,446	241,342	93,367	461,008
SLASH PINE	5,297,588	270,853	282,875	2,282,046	376,326	2,085,488
LOBLOLLY PINE	411,759	3,061	14,391	131,511	86,180	176,616
SHORTLEAF PINE	37,206	--	744	9,830	20,183	6,449
VIRGINIA PINE	--	--	--	--	--	--
SAND PINE	537,348	202,907	80,941	71,584	3,067	178,849
EASTERN REDCEDAR	--	--	--	--	--	--
POND PINE	233,028	60,206	5,661	56,540	10,177	100,444
SPRUCE PINE	9,784	--	--	--	3,608	6,176
PITCH PINE	--	--	--	--	--	--
TABLE-MOUNTAIN PINE	--	--	--	--	--	--
TOTAL	7,769,524	761,675	607,058	2,792,853	592,908	3,015,030
HARDWOOD TYPES:						
OAK-PINE	1,424,133	62,130	150,146	327,250	236,155	648,452
OAK-HICKORY	1,130,568	6,194	51,982	205,562	330,622	536,208
CHESTNUT OAK	--	--	--	--	--	--
SOUTHERN SCRUB OAK	1,002,703	26,541	113,029	88,799	91,097	683,237
OAK-GUM-CYPRESS	4,271,148	146,653	244,745	1,279,109	695,322	1,905,319
ELM-ASH-COTTONWOOD	66,101	2,564	5,463	3,229	8,394	46,451
MAPLE-BEECH-BIRCH	--	--	--	--	--	--
TOTAL	7,894,653	244,082	565,365	1,903,949	1,361,590	3,819,667
ALL TYPES	15,664,177	1,005,757	1,172,423	4,696,802	1,954,498	6,834,697

¹INCLUDES 274,282 ACRES OF PALM AND OTHER TROPICAL FOREST TYPES.

TABLE 11. --AREA OF COMMERCIAL FOREST LAND, BY OWNERSHIP AND STOCKING CLASSES OF GROWING-STOCK TREES, 1980

OWNERSHIP CLASSES	ALL CLASSES	STOCKING PERCENTAGE ¹				
		OVER 130	100-130	60-99	16.7-59	LESS THAN 16.7
-- -- -- -- -- ACRES -- -- -- -- --						
NATIONAL FOREST	1,005,757	37,154	183,074	423,153	263,573	98,803
OTHER PUBLIC	1,172,423	44,263	221,592	347,905	400,048	158,615
FOREST INDUSTRY	4,696,802	205,661	1,403,855	1,678,834	999,518	408,934
FARMER	1,954,498	93,460	364,685	670,531	598,599	227,223
MISC. PRIVATE	6,834,697	282,277	1,383,339	2,065,032	1,986,545	1,117,504
ALL OWNERSHIPS	15,664,177	662,815	3,556,545	5,185,455	4,248,283	2,011,079

¹SEE STOCKING STANDARDS ON PAGE 12.

TABLE 12. --VOLUME OF TIMBER ON COMMERCIAL FOREST LAND, BY CLASS AND SPECIES GROUP, 1980

CLASS OF TIMBER	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
- - - - - THOUSAND CUBIC FEET - - - - -					
SAWTIMBER TREES:					
SAW-LOG PORTION	7,906,714	3,589,814	1,526,671	1,588,130	1,202,099
UPPER-STEM PORTION	826,741	320,659	136,369	210,432	159,281
TOTAL	8,733,455	3,910,473	1,663,040	1,798,562	1,361,380
POLETIMBER TREES	4,886,433	2,413,840	742,745	1,142,613	587,235
ALL GROWING-STOCK TREES	13,619,888	6,324,313	2,405,785	2,941,175	1,948,615
ROUGH TREES:					
SAWTIMBER-SIZE TREES	775,498	14,297	36,521	190,636	534,044
POLETIMBER-SIZE TREES	817,572	24,540	46,206	270,580	476,246
TOTAL	1,593,070	38,837	82,727	461,216	1,010,290
ROTTEN TREES:					
SAWTIMBER-SIZE TREES	159,535	389	28,432	68,803	61,911
POLETIMBER-SIZE TREES	28,629	--	3,762	14,468	10,399
TOTAL	188,164	389	32,194	83,271	72,310
SALVABLE DEAD TREES:					
SAWTIMBER-SIZE TREES	15,367	10,675	1,453	1,998	1,241
POLETIMBER-SIZE TREES	11,398	8,138	1,673	961	626
TOTAL	26,765	18,813	3,126	2,959	1,867
TOTAL, ALL TIMBER	15,427,887	6,382,352	2,523,832	3,488,621	3,033,082

TABLE 14. -- VOLUME OF ALL LIVE TREES ON COMMERCIAL FOREST LAND, BY SPECIES AND DIAMETER CLASS, 1980

SPECIES	ALL CLASSES	DIAMETER CLASS (INCHES AT BREAST HEIGHT)										21.0-28.9	29.0 AND LARGER
		5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9				
THOUSAND CUBIC FEET													
SOFTWOOD:													
LONGLEAF PINE	1,367,946	87,712	176,936	337,738	390,041	236,593	91,573	27,882	8,959	10,512			
SLASH PINE	3,785,742	886,052	958,762	677,429	518,430	344,365	211,998	99,134	48,833	39,351		1,388	
SHORTLEAF PINE	54,089	7,000	6,858	6,666	11,593	12,390	3,937	2,480	1,736	1,429			
LOBLOLLY PINE	592,633	33,174	49,100	72,774	105,186	99,567	78,181	63,342	39,102	50,009		2,198	
POND PINE	187,718	21,148	29,685	36,053	41,442	22,900	14,604	10,330	7,204	4,352			
VIRGINIA PINE													
PITCH PINE													
TABLE-MOUNTAIN PINE													
SPRUCE PINE	39,171	1,188	2,347	4,685	5,839	459	7,630	9,247	4,378	3,398			
SAND PINE	336,240	90,314	88,104	80,656	39,008	22,613	11,145	3,683		717			
EASTERN WHITE PINE													
EASTERN HEMLOCK													
SPRUCE AND FIR													
BALDCYPRESS	572,715	41,078	62,577	71,170	79,436	75,562	59,243	57,008	40,020	59,387		27,234	
PONDYCYPRESS	1,863,784	276,420	392,435	398,347	312,598	216,905	119,787	57,360	36,772	43,888		9,272	
CEDARS	84,207	9,667	10,536	14,335	13,855	15,699	10,793	6,144	1,530	1,648			
TOTAL SOFTWOODS	8,884,245	1,453,753	1,777,340	1,699,853	1,517,428	1,047,053	608,891	336,610	188,534	214,691	40,092		
HARDWOOD:													
SELECT WHITE OAKS	34,536	1,659	3,175	3,735	5,260	7,342	6,208	1,876	3,405	1,048	828		
SELECT RED OAKS	5,072	386	518	581	687	723			695	1,482			
CHESTNUT OAK													
OTHER WHITE OAKS	833,617	40,183	43,547	58,610	66,536	75,451	78,671	80,200	72,869	196,892	120,658		
OTHER RED OAKS	1,211,548	113,648	142,499	172,359	159,608	144,628	106,441	92,868	68,340	153,323	57,834		
HICKORY	133,532	6,510	15,036	13,828	20,678	23,810	16,660	16,238	7,444	12,016	1,712		
YELLOW BIRCH													
HARD MAPLE	16,818	789	1,870	3,391	3,167	1,443	2,289	3,016	853				
SOFT MAPLE	479,394	55,880	70,782	72,740	85,388	70,740	50,883	27,946	16,529	26,163	2,343		
BEECH	13,280		492		1,941	1,237	264	2,606	1,350	4,267	1,123		
SWEETGUM	480,253	40,894	72,559	74,744	84,384	77,780	51,247	24,136	25,335	24,274	5,090		
TUPELO AND BLACKGUM	1,575,655	179,053	195,210	219,690	253,536	222,261	155,485	115,264	82,840	124,850	27,466		
ASH	401,203	61,382	58,834	64,703	49,257	51,165	42,372	27,778	24,544	19,419	1,749		
COTTONWOOD	1,356	394			320				642				
BASSWOOD	12,833	282	1,282	1,901	2,449	1,256	2,133	1,686	644	1,400			
YELLOW-POPLAR	53,701	3,316	5,458	6,750	13,280	6,724	5,587	4,868	7,125	2,793			
BAY AND MAGNOLIA	738,745	118,623	117,158	131,131	117,670	86,148	59,159	44,280	31,847	28,135	4,534		
BLACK CHERRY	6,566	1,867	1,442	436	1,460	535	377			449			
BLACK WALNUT	182												
SYCAMORE	5,555		686		622		784	1,295	624	1,544			
BLACK LOCUST													
ELM	87,148	8,343	11,389	14,030	11,603	16,102	10,073	5,714	3,696	5,203	995		
OTHER EASTERN HARDWOODS	425,983	111,438	105,011	71,075	56,439	29,909	20,528	12,478	8,419	6,446	4,240		
TOTAL HARDWOODS	6,516,877	744,647	847,130	909,764	934,285	817,264	606,061	462,249	357,201	609,704	228,572		
ALL SPECIES	15,401,122	2,198,400	2,624,470	2,609,617	2,451,713	1,864,317	1,214,952	798,859	545,735	824,395	268,664		

TABLE 15. -- VOLUME OF GROWING STOCK ON COMMERCIAL FOREST LAND, BY SPECIES AND DIAMETER CLASS, 1980

SPECIES	ALL CLASSES	DIAMETER CLASS (INCHES AT BREAST HEIGHT)										21.0-28.9	29.0 AND LARGER
		5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9				
THOUSAND CUBIC FEET													
SOFTWOOD:													
LONGLEAF PINE	1,363,747	87,305	174,098	337,173	390,041	236,204	91,573	27,882	8,959	10,512	--	--	
SLASH PINE	3,771,997	880,062	953,936	676,314	518,430	343,623	211,998	99,134	48,833	38,229	1,388	--	
SHORTLEAF PINE	52,812	7,000	6,858	6,666	11,092	12,390	3,161	2,480	1,736	1,429	--	--	
LOBLOLLY PINE	587,121	32,019	47,403	72,263	104,101	98,503	78,181	63,342	39,102	50,009	2,198	--	
POND PINE	184,585	20,073	28,502	35,746	40,874	22,900	14,604	10,330	7,204	4,352	--	--	
VIRGINIA PINE	--	--	--	--	--	--	--	--	--	--	--	--	
PITCH PINE	--	--	--	--	--	--	--	--	--	--	--	--	
TABLE-MOUNTAIN PINE	--	--	--	--	--	--	--	--	--	--	--	--	
SPRUCE PINE	38,157	1,188	1,779	4,239	5,839	459	7,630	9,247	4,378	3,398	--	--	
SAND PINE	325,894	86,622	86,995	77,631	37,269	22,613	10,364	3,683	--	3,717	--	--	
EASTERN WHITE PINE	--	--	--	--	--	--	--	--	--	--	--	--	
EASTERN HEMLOCK	--	--	--	--	--	--	--	--	--	--	--	--	
SPRUCE AND FIR	--	--	--	--	--	--	--	--	--	--	--	--	
BALDCYPRESS	554,209	40,521	59,406	70,176	78,209	75,562	58,805	57,008	39,709	56,731	18,082	--	
POND CYPRESS	1,773,899	252,243	373,742	379,557	303,274	210,544	115,091	55,480	36,129	39,898	7,941	--	
CEDARS	77,677	7,503	9,330	13,601	13,032	14,840	10,400	6,144	1,179	1,648	--	--	
TOTAL SOFTWOODS	8,730,098	1,414,536	1,742,049	1,673,366	1,502,161	1,037,688	601,807	334,730	187,229	206,923	29,609	--	
HARDWOOD:													
SELECT WHITE OAKS	31,731	1,193	2,458	2,872	4,992	7,342	6,208	1,876	3,405	557	828	--	
SELECT RED OAKS	4,177	386	--	581	687	7,723	--	--	695	1,105	--	--	
CHESTNUT OAK	--	--	--	--	--	--	--	--	--	--	--	--	
OTHER WHITE OAKS	394,887	9,655	11,868	18,198	23,609	37,956	29,155	44,072	36,424	109,500	74,450	--	
OTHER RED OAKS	1,034,546	92,523	123,344	150,427	138,573	125,646	96,976	83,542	53,699	125,788	44,028	--	
HICKORY	123,892	5,546	13,661	12,419	19,730	22,615	15,009	15,494	6,573	11,133	1,712	--	
YELLOW BIRCH	--	--	--	--	--	--	--	--	--	--	--	--	
HARD MAPLE	13,027	170	1,330	1,078	2,848	1,443	2,289	3,016	853	20,649	1,704	--	
SOFT MAPLE	370,500	35,998	49,172	58,229	68,919	56,856	41,386	24,369	13,218	3,651	988	--	
BEECH	10,534	--	492	--	1,697	770	--	1,586	1,350	22,476	3,630	--	
SWEETGUM	453,684	36,672	66,883	71,163	81,492	75,122	48,831	22,612	24,783	102,179	18,171	--	
TUPELO AND BLACKGUM	139,190	139,190	160,201	184,157	222,078	199,110	139,357	100,806	74,332	17,690	827	--	
ASH	313,323	35,650	38,340	51,632	43,067	43,763	33,972	25,930	22,452	642	--	--	
COTTONWOOD	1,036	394	--	--	--	--	--	--	--	--	--	--	
BASSWOOD	11,111	282	1,282	1,507	1,975	1,256	2,133	1,180	644	852	--	--	
YELLOW-POPLAR	50,623	2,685	5,005	6,750	13,194	6,724	5,587	4,468	6,818	2,392	--	--	
BAY AND MAGNOLIA	604,061	91,453	91,706	102,151	102,012	70,177	53,422	37,583	27,830	23,193	4,534	--	
BLACK CHERRY	3,922	736	856	436	982	535	377	--	--	--	--	--	
BLACK WALNUT	182	--	182	--	--	--	--	--	--	--	--	--	
SYCAMORE	5,555	--	686	--	622	--	784	1,295	624	1,544	--	--	
BLACK LOCUST	--	--	--	--	--	--	--	--	--	--	--	--	
ELM	72,141	6,020	10,045	9,893	10,192	13,715	7,113	5,714	3,696	4,758	995	--	
OTHER EASTERN HARDWOODS	51,297	5,567	9,600	7,124	10,264	7,133	4,958	4,585	1,105	961	--	--	
TOTAL HARDWOODS	4,889,790	464,120	587,111	678,617	746,933	670,886	484,557	378,128	279,143	448,428	151,867	--	
ALL SPECIES	13,619,888	1,878,656	2,329,160	2,351,983	2,249,094	1,708,574	1,086,364	712,858	466,272	655,351	181,476	--	

TABLE 16. --VOLUME OF SAWTIMBER ON COMMERCIAL FOREST LAND, BY SPECIES AND DIAMETER CLASS, 1980

SPECIES	ALL CLASSES	DIAMETER CLASS (INCHES AT BREAST HEIGHT)								29.0 AND LARGER
		9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9		
THOUSAND BOARD FEET										
SOFTWOOD:										
LONGLEAF PINE	5,331,988	1,370,921	1,876,651	1,260,688	527,142	169,692	56,876	70,018	10,174	
SLASH PINE	9,047,785	2,512,239	2,377,267	1,786,018	1,203,196	596,467	308,075	254,349	9,133	
SHORTLEAF PINE	189,080	24,655	49,188	63,040	17,581	14,820	10,663	9,133	15,538	
LOBLOLLY PINE	2,607,144	254,061	459,636	498,283	433,355	374,358	242,633	329,280	27,509	
POND PINE	646,998	133,241	185,771	116,674	80,362	59,747	43,694	27,509		
VIRGINIA PINE										
PITCH PINE										
TABLE-MOUNTAIN PINE										
SPRUCE PINE	174,252	18,486	27,202	2,259	38,189	47,290	22,779	18,047		
SAND PINE	663,084	289,329	170,732	117,658	58,413	22,265		4,687		
EASTERN WHITE PINE										
EASTERN HEMLOCK										
SPRUCE AND FIR										
BALDCYPRESS	2,060,355	201,272	290,673	327,463	281,585	293,307	216,151	332,126	117,778	
POND CYPRESS	4,605,232	1,163,223	1,178,346	934,682	558,991	287,786	197,820	232,247	52,137	
CEDARS	298,370	53,490	59,936	75,338	56,725	35,656	6,976	10,249		
TOTAL SOFTWOODS	25,624,288	6,020,917	6,675,402	5,182,103	3,255,539	1,901,388	1,105,667	1,287,645	195,627	
HARDWOOD:										
SELECT WHITE OAKS	108,427		16,643	28,352	27,519	9,586	17,229	3,490	5,608	
SELECT RED OAKS	15,606		2,626	2,792			3,789	6,399		
CHESTNUT OAK										
OTHER WHITE OAKS	1,925,802		84,766	160,205	136,097	222,886	195,013	637,058	489,777	
OTHER RED OAKS	3,247,371		520,024	546,433	459,112	426,297	288,597	727,789	279,119	
HICKORY	408,605		67,037	91,399	67,233	75,730	34,646	62,047	10,513	
YELLOW BIRCH										
HARD MAPLE	44,159		10,611	5,919	9,957	13,644	4,028			
SOFT MAPLE	887,331		215,793	212,427	171,206	108,696	62,738	106,920	9,551	
BEECH	40,222		6,207	2,896		6,323	5,447	15,173	4,176	
SWEETGUM	1,258,705		287,486	321,959	233,464	118,984	138,145	134,090	24,577	
TUPELO AND BLACKGUM	3,663,386		706,941	766,280	613,548	486,998	384,589	584,695	120,335	
ASH	782,153		139,323	168,557	146,111	120,130	110,036	93,255	4,741	
COTTONWOOD	3,273						3,273			
BASSWOOD	34,141		7,047	4,945	9,224	5,381	3,029	4,515		
YELLOW-POPLAR	166,000		48,476	28,660	12,382	23,726	38,287	14,469		
BAY AND MAGNOLIA	1,312,709		329,335	271,101	230,729	178,658	139,918	133,285	29,683	
BLACK CHERRY	6,862		3,218	2,053	1,591					
BLACK WALNUT										
SYCAMORE	23,095		1,823		3,499	6,042	3,110	8,621		
BLACK LOCUST										
ELM	190,952		34,131	53,419	30,452	25,758	17,565	23,983	5,644	
OTHER EASTERN HARDWOODS	108,345		32,056	25,725	20,362	20,269	5,118	4,815		
TOTAL HARDWOODS	14,227,144	--	2,513,543	2,693,122	2,172,486	1,849,108	1,454,557	2,560,604	983,724	
ALL SPECIES	39,851,432	6,020,917	9,188,945	7,875,225	5,428,025	3,750,496	2,560,224	3,848,249	1,179,351	

TABLE 17. --NET ANNUAL GROWTH AND REMOVALS OF GROWING STOCK ON COMMERCIAL FOREST LAND, BY SPECIES, 1979

SPECIES	NET ANNUAL GROWTH	ANNUAL TIMBER REMOVALS
- - THOUSAND CUBIC FEET - -		
SOFTWOOD:		
YELLOW PINES	543,892	426,912
EASTERN WHITE PINE	--	--
SPRUCE AND FIR	--	--
CYPRESS	58,506	25,332
OTHER EASTERN SOFTWOODS	3,355	1,381
TOTAL SOFTWOODS	605,753	453,625
HARDWOOD:		
SELECT WHITE AND RED OAKS	787	1,237
OTHER WHITE AND RED OAKS	60,628	34,942
HICKORY	3,960	4,341
YELLOW BIRCH	--	--
HARD MAPLE	489	400
SWEETGUM	17,696	12,802
ASH, WALNUT, AND BLACK CHERRY	8,840	4,514
YELLOW-POPLAR	2,336	1,139
TUPELO AND BLACKGUM	34,417	10,302
BAY AND MAGNOLIA	25,702	8,148
OTHER EASTERN HARDWOODS	24,890	10,262
TOTAL HARDWOODS	179,745	88,087
ALL SPECIES	785,498	541,712

TABLE 18. --NET ANNUAL GROWTH AND REMOVALS OF SAWTIMBER ON COMMERCIAL FOREST LAND, BY SPECIES, 1979

SPECIES	NET ANNUAL GROWTH	ANNUAL TIMBER REMOVALS
- - - THOUSAND BOARD FEET - - -		
SOFTWOOD:		
YELLOW PINES	1,711,384	1,362,853
EASTERN WHITE PINE	--	--
SPRUCE AND FIR	--	--
CYPRESS	250,916	86,361
OTHER EASTERN SOFTWOODS	15,842	4,707
TOTAL SOFTWOODS	1,978,142	1,453,921
HARDWOOD:		
SELECT WHITE AND RED OAKS	3,431	4,260
OTHER WHITE AND RED OAKS	242,750	130,161
HICKORY	17,658	18,079
YELLOW BIRCH	--	--
HARD MAPLE	2,079	1,246
SWEETGUM	64,405	35,987
ASH, WALNUT, AND BLACK CHERRY	30,204	15,225
YELLOW-POPLAR	11,200	5,073
TUPELO AND BLACKGUM	115,490	41,267
BAY AND MAGNOLIA	59,500	24,044
OTHER EASTERN HARDWOODS	75,594	25,423
TOTAL HARDWOODS	622,311	300,765
ALL SPECIES	2,600,453	1,754,686

TABLE 19. --MORTALITY OF GROWING STOCK AND SAWTIMBER ON COMMERCIAL
FOREST LAND, BY SPECIES, 1979

SPECIES	GROWING STOCK	SAWTIMBER
	THOUSAND CUBIC FEET	THOUSAND BOARD FEET
SOFTWOOD:		
YELLOW PINES	52,112	145,196
EASTERN WHITE PINE	--	--
SPRUCE AND FIR	--	--
CYPRESS	7,866	14,129
OTHER EASTERN SOFTWOODS	794	3,366
TOTAL SOFTWOODS	60,772	162,691
HARDWOOD:		
SELECT WHITE AND RED OAKS	376	1,649
OTHER WHITE AND RED OAKS	12,535	44,990
HICKORY	933	4,179
YELLOW BIRCH	--	--
HARD MAPLE	--	--
SWEETGUM	4,633	14,992
ASH, WALNUT, AND BLACK CHERRY	2,480	6,628
YELLOW-POPLAR	169	1,019
TUPELO AND BLACKGUM	10,206	30,848
BAY AND MAGNOLIA	5,570	16,255
OTHER EASTERN HARDWOODS	7,357	20,319
TOTAL HARDWOODS	44,259	140,879
ALL SPECIES	105,031	303,570

TABLE 20. -- VOLUME OF ALL LIVE TREES AND GROWING STOCK ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1980

OWNERSHIP CLASS	ALL LIVE TREES					GROWING STOCK				
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
						THOUSAND CUBIC FEET				
NATIONAL FOREST	1,160,381	782,434	130,547	192,105	55,295	1,082,501	779,854	113,879	160,331	28,437
OTHER PUBLIC	1,231,292	626,919	171,745	230,200	202,428	1,068,660	622,579	165,440	183,472	97,169
FOREST INDUSTRY	4,139,425	1,757,543	595,306	1,084,558	702,018	3,751,392	1,748,892	572,921	923,780	505,799
FARMER	2,281,755	690,109	456,196	519,695	615,755	1,964,931	684,096	436,798	425,172	418,865
MISCELLANEOUS PRIVATE	6,588,269	2,506,534	1,166,912	1,459,104	1,455,719	5,752,404	2,488,892	1,116,747	1,248,420	898,345
ALL OWNERSHIPS	15,401,122	6,363,539	2,520,706	3,485,662	3,031,215	13,619,888	6,324,313	2,405,785	2,941,175	1,948,615

TABLE 21. -- VOLUME OF SAWTIMBER ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1980

OWNERSHIP CLASS	SMALL SAWTIMBER ¹					LARGE SAWTIMBER ²				
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
						THOUSAND BOARD FEET				
NATIONAL FOREST	2,497,297	2,144,749	213,904	119,886	18,758	997,039	460,707	174,736	286,341	75,255
OTHER PUBLIC	2,344,581	1,754,376	283,989	216,483	89,733	1,356,723	582,824	280,019	296,313	197,567
FOREST INDUSTRY	5,831,912	3,144,940	1,061,412	1,092,711	532,849	4,039,292	1,056,678	576,793	1,265,701	1,140,120
FARMER	3,178,301	1,482,351	811,378	489,000	395,512	2,842,206	819,279	424,365	550,385	1,048,177
MISCELLANEOUS PRIVATE	9,232,996	5,067,583	1,913,740	1,409,607	842,066	7,531,085	2,146,844	1,223,621	1,894,717	2,265,903
ALL OWNERSHIPS	23,085,087	13,593,999	4,284,423	3,327,687	1,878,978	16,766,345	5,066,332	2,679,534	4,293,457	4,727,022

¹ VOLUME OF SAWTIMBER TREES LESS THAN 15.0 INCHES AT D.B.H.

² VOLUME OF SAWTIMBER TREES 15.0 INCHES AND LARGER AT D.B.H.

TABLE 22. --NET ANNUAL GROWTH AND REMOVALS OF GROWING STOCK ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1979

OWNERSHIP CLASS	NET ANNUAL GROWTH				ANNUAL TIMBER REMOVALS			
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD
THOUSAND CUBIC FEET								
NATIONAL FOREST	60,377	51,098	2,365	5,756	1,158	21,854	20,870	64
OTHER PUBLIC	51,920	38,316	4,433	5,203	3,968	41,569	22,086	5,711
FOREST INDUSTRY	251,656	182,840	16,406	31,325	21,085	210,551	173,699	6,698
FARMER	34,900	51,313	10,225	15,873	17,489	65,357	48,133	3,343
MISCELLANEOUS PRIVATE	326,645	220,325	28,432	44,841	33,047	202,381	162,124	10,897
ALL OWNERSHIPS	785,498	543,892	61,861	102,998	76,747	541,712	426,912	26,713
								42,296
								45,791

TABLE 23. --NET ANNUAL GROWTH AND REMOVALS OF SAWTIMBER ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1979

OWNERSHIP CLASS	NET ANNUAL GROWTH				ANNUAL TIMBER REMOVALS			
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD
THOUSAND BOARD FEET								
NATIONAL FOREST	242,980	212,956	10,211	15,146	4,667	63,496	59,987	344
OTHER PUBLIC	215,051	158,163	25,428	18,392	13,068	156,590	84,336	22,433
FOREST INDUSTRY	670,848	421,156	62,102	100,487	87,103	675,707	548,081	20,148
FARMER	356,067	207,165	44,021	48,588	56,293	217,508	161,731	11,269
MISCELLANEOUS PRIVATE	1,115,507	711,944	124,996	141,601	136,966	641,385	508,718	36,874
ALL OWNERSHIPS	2,600,453	1,711,384	266,758	324,214	298,097	1,754,686	1,362,853	91,068
								130,470
								170,295

TABLE 24. --AVERAGE NET VOLUME PER ACRE OF SAWTIMBER, GROWING STOCK, AND OTHER LIVE TIMBER¹ ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS, MAJOR FOREST TYPE, AND SPECIES GROUP, 1980

FOREST TYPE, AND SPECIES GROUP, AND CLASS OF MATERIAL	ALL OWNERSHIPS			NATIONAL FOREST				OTHER PUBLIC				FOREST INDUSTRY				FARMER				MISC. PRIVATE			
	BOARD FEET	CUBIC FEET		BOARD FEET	CUBIC FEET			BOARD FEET	CUBIC FEET			BOARD FEET	CUBIC FEET			BOARD FEET	CUBIC FEET			BOARD FEET	CUBIC FEET		
PINE TYPES:																							
GROWING STOCK:																							
SOFTWOOD	1,861	689		2,911	889			2,907	800			1,180	551			2,706	905			1,797	694		
HARDWOOD	48	26		40	23			81	41			24	17			144	65			47	24		
TOTAL	1,909	715		2,951	912			2,988	841			1,204	568			2,850	970			1,844	718		
OTHER TIMBER:																							
SOFTWOOD	--	4		--	4			--	5			--	3			--	9			--	5		
HARDWOOD	--	13		--	16			--	30			--	5			--	26			--	13		
TOTAL	--	17		--	20			--	35			--	8			--	35			--	18		
OAK-PINE TYPES:																							
GROWING STOCK:																							
SOFTWOOD	2,112	528		1,724	444			2,105	493			2,448	666			2,261	533			1,931	474		
HARDWOOD	571	239		109	107			111	72			704	277			1,167	427			458	209		
TOTAL	2,683	767		1,833	551			2,216	565			3,152	943			3,428	960			2,389	683		
OTHER TIMBER:																							
SOFTWOOD	--	9		--	4			--	15			--	13			--	6			--	8		
HARDWOOD	--	110		--	68			--	90			--	75			--	132			--	130		
TOTAL	--	119		--	72			--	105			--	88			--	138			--	138		
UPLAND HARDWOOD TYPES:																							
GROWING STOCK:																							
SOFTWOOD	237	55		548	143			371	85			136	36			325	70			201	47		
HARDWOOD	1,241	366		24	121			327	117			1,502	473			1,974	597			1,095	306		
TOTAL	1,478	421		872	264			698	202			1,638	509			2,299	667			1,296	353		
OTHER TIMBER:																							
SOFTWOOD	--	194		--	59			--	156			--	164			--	213			--	205		
HARDWOOD	--	196		--	55			--	158			--	165			--	214			--	207		
BOTTOMLAND HARDWOOD TYPES:																							
GROWING STOCK:																							
SOFTWOOD	1,762	577		2,448	663			2,344	674			1,396	459			1,891	640			1,823	611		
HARDWOOD	2,427	833		2,714	955			3,637	933			2,638	924			1,895	664			2,408	813		
TOTAL	4,189	1,410		5,162	1,618			5,981	1,607			4,034	1,383			3,786	1,304			4,231	1,424		
OTHER TIMBER:																							
SOFTWOOD	--	24		--	93			--	20			--	15			--	26			--	23		
HARDWOOD	--	223		--	230			--	375			--	217			--	228			--	205		
TOTAL	--	247		--	323			--	395			--	232			--	254			--	228		
ALL TYPES:																							
GROWING STOCK:																							
SOFTWOOD	1,636	557		2,694	834			2,323	831			1,262	502			1,845	585			1,531	533		
HARDWOOD	908	312		450	170			641	225			871	309			1,295	440			949	318		
TOTAL	2,544	869		3,144	974			2,964	956			2,133	811			3,140	1,025			2,480	851		
OTHER TIMBER:																							
SOFTWOOD	--	10		--	17			--	8			--	7			--	13			--	10		
HARDWOOD	--	104		--	53			--	126			--	77			--	152			--	114		
TOTAL	--	114		--	70			--	130			--	84			--	165			--	124		
ALL TIMBER	2,544	983		3,144	1,044			2,964	986			2,133	895			3,140	1,190			2,480	975		

¹ ROUGH AND ROTTEN TREES.

TABLE 25. --LAND AREA, BY CLASS, MAJOR FOREST TYPE, AND SURVEY COMPLETION DATE, 1959, 1970, AND 1980

LAND USE CLASS	SURVEY COMPLETION DATE			CHANGE 1970-1980
	1959	1970	1980	
- - - - - ACRES - - - - -				
FOREST LAND:				
COMMERCIAL FOREST LAND:				
PINE AND OAK-PINE TYPES	9,546,500	9,567,984	9,193,657	-374,327
HARDWOOD TYPES	7,625,500	6,693,255	6,470,520	-222,735
TOTAL	17,172,000	16,261,239	15,664,177	-597,062
NONCOMMERCIAL FOREST LAND:				
PRODUCTIVE-RESERVED	92,700	94,200	411,844	+317,644
UNPRODUCTIVE	1,785,000	1,590,744	1,057,868	-532,876
TOTAL	1,877,700	1,684,944	1,469,712	-215,232
NONFOREST LAND:				
CROPLAND	3,554,100	3,671,347	3,784,515	+113,168
PASTURE AND RANGE	5,028,900	6,456,018	6,991,503	+535,485
OTHER	6,740,200	6,464,601	6,622,456	+157,855
TOTAL	15,323,200	16,591,966	17,398,474	+806,508
ALL LAND ¹	34,372,900	34,538,149	34,532,363	- 5,786

¹ EXCLUDES ALL WATER AREAS.

TABLE 26. -- VOLUME OF SAWTIMBER, GROWING STOCK, AND ALL LIVE TIMBER ON COMMERCIAL FOREST LAND, BY SPECIES GROUP, DIAMETER CLASS, AND SURVEY COMPLETION DATE

SPECIES GROUP	YEAR	ALL CLASSES	DIAMETER CLASS (INCHES AT BREAST HEIGHT)									
			5.0- 6.9	7.0- 8.9	9.0- 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 20.9	21.0 AND LARGER	
SAWTIMBER (IN THOUSAND BOARD FEET)												
SOFTWOOD	1959	16,635,191	--	--	4,556,355	4,916,137	3,303,158	1,777,636	953,236	547,500	581,169	
	1970	21,318,122	--	--	5,337,545	5,881,972	4,440,602	2,621,831	1,494,474	701,341	840,357	
	1980	25,624,288	--	--	6,020,917	6,675,402	5,182,103	3,255,539	1,901,388	1,105,667	1,483,272	
HARDWOOD	1959	10,763,188	--	--	--	1,973,443	2,164,137	1,772,136	1,393,506	1,088,852	2,371,114	
	1970	12,198,445	--	--	--	2,178,883	2,327,495	1,975,498	1,641,546	1,227,416	2,847,607	
	1980	14,227,144	--	--	--	2,513,543	2,693,122	2,172,486	1,849,108	1,454,557	3,544,328	
GROWING STOCK (IN THOUSAND CUBIC FEET)												
SOFTWOOD	1959	5,795,048	869,376	1,205,946	1,265,176	1,108,117	663,140	328,621	167,991	93,378	93,303	
	1970	7,298,292	1,180,012	1,421,858	1,481,678	1,323,259	890,916	484,768	262,849	118,938	134,014	
	1980	8,730,098	1,414,536	1,742,049	1,673,366	1,502,161	1,037,688	601,807	334,730	187,229	236,532	
HARDWOOD	1959	3,854,299	377,988	480,096	580,640	586,461	539,017	394,948	284,884	208,927	401,338	
	1970	4,257,423	403,709	533,935	599,109	647,386	579,875	440,445	335,556	235,533	481,875	
	1980	4,889,790	464,120	587,111	678,617	746,933	670,886	484,557	378,128	279,143	600,295	
ALL LIVE TIMBER (IN THOUSAND CUBIC FEET)												
SOFTWOOD	1959	5,905,963	904,644	1,232,144	1,285,497	1,118,922	669,061	332,542	169,920	93,933	100,300	
	1970	7,428,788	1,216,847	1,452,555	1,505,448	1,335,960	899,689	490,539	264,409	119,767	144,574	
	1980	8,884,245	1,453,753	1,777,340	1,699,853	1,517,428	1,047,053	608,891	336,610	188,534	254,783	
HARDWOOD	1959	5,138,493	617,222	693,381	777,793	734,772	655,453	491,008	346,794	266,228	555,842	
	1970	5,670,378	651,720	768,437	803,796	809,463	707,388	549,469	408,780	300,417	669,908	
	1980	6,516,877	744,647	847,130	909,764	934,285	817,264	606,061	462,249	357,201	838,276	

TO PROVIDE A BASIS FOR VALID COMPARISONS, ADJUSTMENTS HAVE BEEN MADE TO ALLOW FOR DIFFERENCES IN VOLUME TABLES AND SAWTIMBER SPECIFICATIONS USED IN PREVIOUS SURVEYS.



Bechtold, William A., and Raymond M. Sargent.

1981. Forest statistics for Florida, 1970. USDA For. Serv., Resour. Bull. SE-58, 40 p.
Southern For. Exp. Stn., Asheville, NC.

Since the fourth inventory of Florida's forest resources in 1970, area of commercial forest has declined by 49,700 acres, or 3 percent. Commercial forest now occupies 157 million acres, or 45 percent of the total land area. The ratio of pine types to hardwood types has remained the same, because declines in the total commercial forest were proportionately distributed between these types. Average basal area of all live trees 5.0 inches and larger has increased from 45 to 51 square feet per acre. Volume of growing stock has increased 30 percent for softwoods and 13 percent for hardwoods. Slash pine volume has increased by 15 percent, while longleaf pine volume has decreased by 8 percent. Net annual growth of growing stock averaged 30 cubic feet per acre, up by 17 cubic feet per acre since 1969. Annual removals of growing stock averaged 29 percent of net annual growth.

KEYWORDS: Forest types, commercial forest, land, forest ownership, timber volume (timber growth), timber removals.

Bechtold, William A., and Raymond M. Sargent.

1981. Forest statistics for Florida, 1980. USDA For. Serv., Resour. Bull. SE-66, 40 p.
Southern For. Exp. Stn., Asheville, NC.

Since the fourth inventory of Florida's forest resources in 1970, area of commercial forest has declined by 49,700 acres, or 3 percent. Commercial forest now occupies 157 million acres, or 45 percent of the total land area. The ratio of pine types to hardwood types has remained the same, because declines in the total commercial forest were proportionately distributed between these types. Average basal area of all live trees 5.0 inches and larger has increased from 45 to 51 square feet per acre. Volume of growing stock has increased 30 percent for softwoods and 13 percent for hardwoods. Slash pine volume has increased by 15 percent, while longleaf pine volume has decreased by 8 percent. Net annual growth of growing stock averaged 30 cubic feet per acre, up by 17 cubic feet per acre since 1969. Annual removals of growing stock averaged 29 percent of net annual growth.

KEYWORDS: Forest types, commercial forest, land, forest ownership (timber growth), timber removals.



The Forest Service, U.S. Department of Agriculture, is dedicated to the principle of multiple use management of the Nation's forest resources for sustained yields of wood, water, forage, wildlife, and recreation. Through forestry research, cooperation with the States and private forest owners, and management of the National Forests and National Grasslands, it strives—as directed by Congress—to provide increasingly greater service to a growing Nation.

USDA policy does not permit discrimination because of race, color, national origin, sex or religion. Any person who believes he or she has been discriminated against in any USDA-related activity should write immediately to the Secretary of Agriculture, Washington, D.C. 20250.

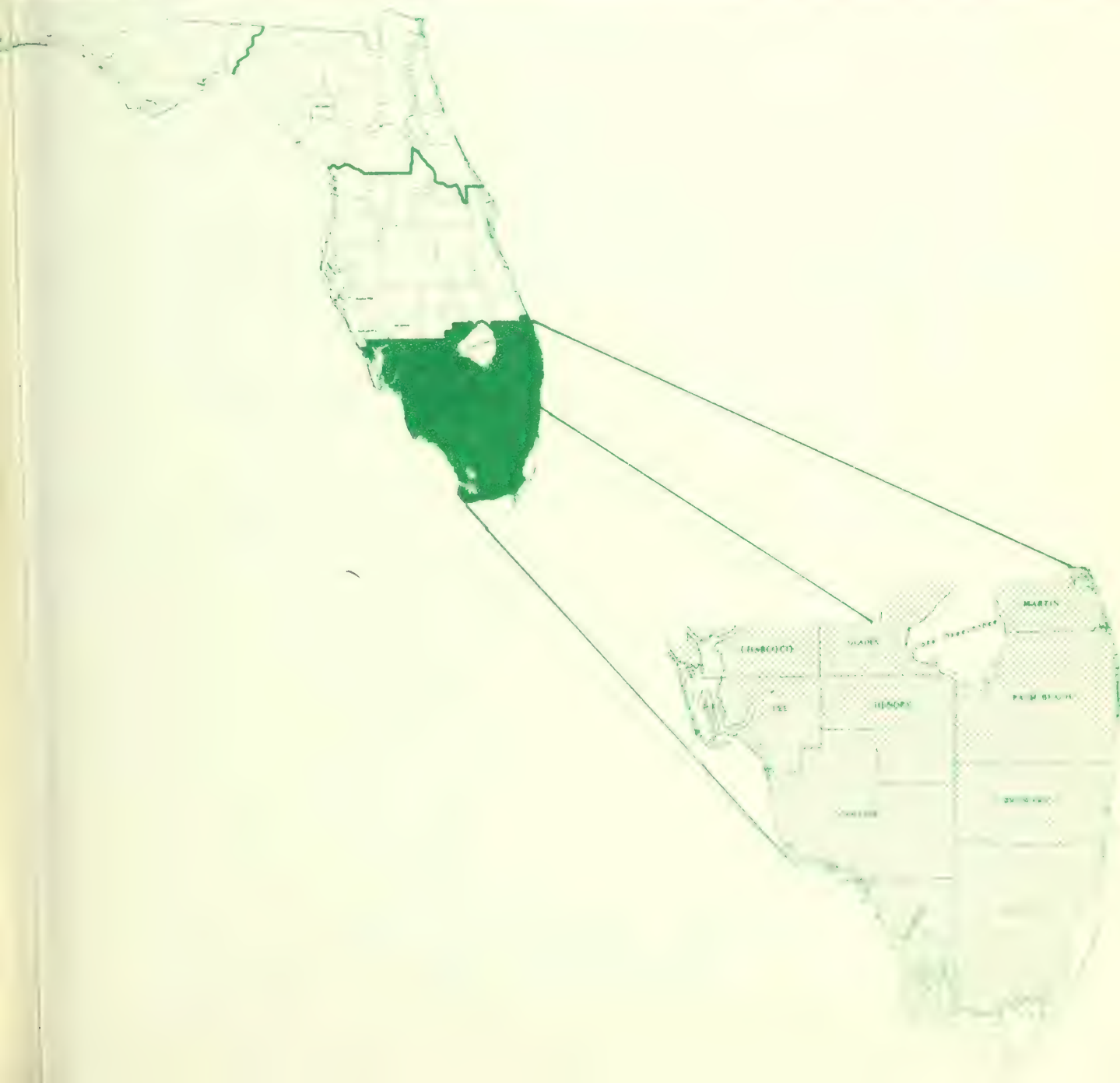
United States
Department of
Agriculture

Forest Service



Southeastern Forest
Experiment Station
Resource Bulletin
FE-59

FOREST STATISTICS FOR SOUTH FLORIDA, 1980



FOREWORD

This report highlights the principal findings of the fifth forest survey of South Florida. Fieldwork began in January 1980 and was completed in May 1980. Four previous surveys, completed in 1936, 1949, 1959, and 1970, provide statistics for measuring changes and trends over the past 44 years. The primary emphasis in this report is on the changes and trends since 1970. Previously reported figures have been adjusted to provide the best estimate of change.

Renewable Resources Evaluation (formerly Forest Survey) is authorized by the Forest and Rangeland Renewable Resources Research Act of 1978. The survey is a continuing, nationwide undertaking by the regional experiment stations of the Forest Service, USDA. In Florida, Georgia, North Carolina, South Carolina, and Virginia, Renewable Resources Evaluation is administered through the Southeastern Forest Experiment Station, with headquarters in Asheville, North Carolina. The primary objective of the survey is to periodically inventory and evaluate forest and related resources. These inventories provide information on the extent and condition of forest lands, volume of timber, and rates of timber growth and removals. These data and evaluations help provide a basis for formulating forest policies and programs and for the orderly development and use of the resources.

The 10-county area covered by this report is one of four survey units in Florida. Similar reports, USDA Forest Service Resource Bulletins SE-52, SE-53, and SE-55, have been issued for Northwest, Northeast, and Central Florida. Another report containing many of the State totals is being released with this report. An in-depth, analytical State report on the timber resource should be available in late 1981.

The Southeastern Station gratefully acknowledges the cooperation and assistance provided by the Division of Forestry, Florida Department of Agriculture and Consumer Services, in collecting the field data. Appreciation is also expressed for the excellent cooperation of other public agencies and private landowners in providing information and access to the sample locations.



JOE P. McCLURE
Project Leader

July 1981

Southeastern Forest Experiment Station
Asheville, North Carolina

**FOREST STATISTICS
FOR
SOUTH FLORIDA,
1980**

by

Raymond M. Sheffield, Resource Analyst

and

William A. Bechtold, Resource Analyst

CONTENTS

	<i>Page</i>
HIGHLIGHTS	1
HOW THE INVENTORY IS MADE.....	3
RELIABILITY OF THE DATA.....	4
DEFINITIONS OF TERMS.....	6
COUNTY TABLES	
1. Area, by land class.....	13
2. Area of commercial forest land, by ownership class.....	14
3. Area of commercial forest land, by forest-type group	15
4. Area of commercial forest land, by stand-size class.....	16
5. Area of commercial forest land, by site class.....	16
6. Area of commercial forest land, by stocking classes of growing-stock trees.....	17
7. Volume of sawtimber and growing stock on commercial forest land, by species group	18
8. Net annual growth of sawtimber and growing stock on commercial forest land, by species group.....	19
9. Annual removals of sawtimber and growing stock on commercial forest land, by species group	20
UNIT TABLES	
10. Area of commercial forest land, by forest type and ownership class.....	21
11. Area of commercial forest land, by ownership and stocking classes of growing-stock trees.....	21
12. Volume of timber on commercial forest land, by class and species group	22
13. Number of growing-stock trees on commercial forest land, by species and diameter class	23
14. Volume of all live trees on commercial forest land, by species and diameter class	24
15. Volume of growing stock on commercial forest land, by species and diameter class	25
16. Volume of sawtimber on commercial forest land, by species and diameter class	26
17. Net annual growth and removals of growing stock on commercial forest land, by species	27
18. Net annual growth and removals of sawtimber on commercial forest land, by species	27
19. Mortality of growing stock and sawtimber on commercial forest land, by species	28
20. Volume of all live trees and growing stock on commercial forest land, by ownership class and species group	29
21. Volume of sawtimber on commercial forest land, by ownership class and species group	29
22. Net annual growth and removals of growing stock on commercial forest land, by ownership class and species group.....	30
23. Net annual growth and removals of sawtimber on commercial forest land, by ownership class and species group.....	30
24. Average net volume per acre of sawtimber, growing stock, and other live timber on commercial forest land, by ownership class, major forest type, and species group	31
25. Land area, by class, major forest type, and survey completion date.....	32
26. Volume of sawtimber, growing stock, and all live timber on commercial forest land, by species group, diameter class, and survey completion date	33

HIGHLIGHTS

The physiographic and vegetative conditions in South Florida are not found in any other area in the Southeast. Dense human populations and other socioeconomic factors have led to an extensive interchange of acreage among the various land uses. All these factors greatly complicate the inventory process in South Florida. To sample at the accuracy levels used for most Survey Units in the Southeast would be prohibitively costly and time consuming. Thus, the statistics presented in this report represent our best estimate at a reasonable expenditure of time and dollars. A measure of the reliability of the data is found in the sampling error table on page 5.

The latest survey classifies over 2.0 million acres, or 26 percent of the land area in South Florida, as forest. Nearly 949,000 acres are classified as unproductive forest, 834,000 acres as commercial forest, and 265,000 acres as productive-reserved forest land. The breakdown of forest land has changed significantly from that in 1970. While the trends indicated by the current survey findings are not unreasonable, it is only fair to state that part of the change may be attributed to different methods of obtaining land use breakdowns in the two surveys. In 1970, estimates of forest and nonforest were based entirely on ground classifications at each sample location. The usual method is to classify a large number of sample clusters on aerial photographs and use the ground samples to adjust the photo classifications. This preferred photo method could not be used in 1970 or in 1980 because complete and current photo coverage for the 10 counties in South Florida did not exist and interpreting vegetation and land use classes from much of the photography was difficult. Thus, in the latest survey a large number of direct aerial observations along flight lines at low altitude were used to classify land use. This procedure is described on page 3. Observation along the same flight lines can be repeated in future surveys for consistency.

Since 1970 in South Florida

- *area of commercial forest land has increased by 109,000 acres, or by 15 percent.* Commercial forests occupy 834,000 acres, or less than 11 percent of the land area in these 10 counties. Four counties at the south end of the peninsula and up the Atlantic Coast—Broward, Dade, Monroe, and Palm Beach—have no commercial forest. About 347,000 acres were added to the commercial forest-land base in South Florida, while 238,000 acres were diverted to other land uses. Most of the additions were due to the reclassification of 308,000 acres of unproductive forest and rangeland to commercial forest. In the absence of this reclassification, area of commercial forest land would have dropped substantially. Two-thirds of the diversions was to noncommercial forests and the remaining one-third to nonforest land uses. The establishment of the Big Cypress National Preserve accounted for most of the 214,000-acre increase in acreage of productive-reserved forest land.

- *area of commercial forest land owned by farmers has more than doubled, and now totals 228,000 acres.* The acreage held by miscellaneous private owners totals 595,000 acres, 3 percent more than in 1970. Private land-owners control 99 percent of the commercial forest acreage. Forest industry does not own any commercial forest land in South Florida.

- *3 of every 5 acres of commercial forest land have been treated or disturbed.* The major treatments were prescribed burning on 170,000 acres, grazing on 84,000 acres, and major drainage efforts on 65,000 acres. Forestry related activities such as harvesting, intermediate cutting, and artificial regeneration accounted for only 16 percent of the total acreage treated or disturbed. Natural disturbances, largely wildfire, caused significant damage on 66,000 acres.

- *area of commercial forest land occupied by hardwood forest types has increased by 153,000 acres, largely the result of the inclusion of the reclassified, unproductive sites.* Oak-gum-cypress is the predominant hardwood type, and includes 139,000 acres of palm and other tropical forest types. Pine forest types have declined by 48,000 acres, or by 14 percent. Land clearing accounted for three fourths of the pine-type loss. Oak-pine types have increased by 13 percent, but make up only 4 percent of the commercial forest land.

- *average basal area of all live trees 5.0 inches d.b.h. and larger has increased from 36 to 50 square feet per acre of commercial forest land.* However, over 57 percent of the commercial forest is still poorly stocked or non-stocked with growing-stock trees.

- *volume of growing-stock timber has increased from over 0.5 to about 0.6 billion cubic feet, or by 10 percent.* Softwood species make up over 91 percent of this volume. Cypress and slash pine are the major softwood species. Cypress accounted for 93 percent of the total volume increase. Collectively, hardwood species declined in volume by less than 2 percent. The current inventory of growing stock includes 1.6 billion board feet of sawtimber, up by 20 percent since 1970.

In 1979

•*net annual growth of growing stock totaled 21 million cubic feet, while annual timber removals totaled 16 million cubic feet.* Softwoods accounted for 81 percent of the net growth but only 54 percent of the removals. For hardwoods, annual removals were about 90 percent greater than net growth. Only 14 percent of the removals were due to commercial logging operations. Land clearing and other land withdrawals accounted for the remaining timber removals.

•*mortality of growing stock totaled 10 million cubic feet, and reduced gross growth by 33 percent.* Softwood species comprised 94 percent of the mortality. Fire was the primary cause of death, accounting for 72 percent of the mortality.

HOW THE INVENTORY IS MADE

The method of the inventory is a sampling procedure designed to provide reliable statistics primarily at the State and Survey Unit levels. Individual county statistics are presented so that any combination of counties may be added together until a total is large enough to meet the desired degree of reliability. Procedures were as follows:

1. Estimates of forest and nonforest areas were determined from direct aerial observations along 27 east-west flight lines spaced at 5-mile intervals. The flight lines were selected systematically from a random start and flown perpendicularly to the direction of primary drainage. From an altitude of 500 feet above the ground, observers classified the land use at 24,471 sample points along the flight lines. An interval timer was used to locate the sample points. This direct aerial method was not used in the Keys because of their unique geographical layout. In the Keys, gross area estimates were made by planimeter of the U.S. Geological Survey boundaries as transferred from maps onto aerial photographs. The breakdown of gross acreage into detailed land use was based upon the ground classification of 45 sample locations.
2. Estimates of timber volume and forest classifications were based on measurements recorded at 189 ground sample locations systematically distributed on commercial forest land. The plot design at each location was based on a cluster of 10 points. In most cases, variable plots, using a basal-area factor of 37.5 square feet per acre, were systematically spaced within a single forest condition at 5 of the 10 cluster points. Trees less than 5 inches d.b.h. were tallied on a fixed-radius plot around each point center.
3. Equations prepared from detailed measurements collected on standing trees in this Unit, and similar measurements taken throughout the Southeast, were used to compute the volume of individual tally trees. A mirror caliper and sectional aluminum poles were used to obtain the additional measurements on these standing trees required to construct volume equations.
4. Felled trees were measured at two active cutting operations. These data will be pooled with similar measurements taken in the State to supplement the standing-tree volume data and to generate utilization factors for product and species groups that will be analyzed at the State level.
5. Estimates of growth, removals, and mortality were determined from the remeasurement of 156 permanent sample plots established in the fourth survey.
6. Ownership information was collected from correspondence, public records, and local contacts. In those counties where the sample missed a particular ownership class, temporary sample plots were added on these lands.
7. All field data were sent to Asheville for editing and were punched into cards and stored for machine computing, sorting, and tabulation. Final estimates were based on statistical summaries of the data.

RELIABILITY OF THE DATA

Statistical analysis of these data indicates the following sampling errors in terms of one standard error (two times out of three):

	<i>Percent</i>
Per million acres of commercial forest land	10.93
Per billion cubic feet of growing stock	8.78
Per billion cubic feet of net annual growth	1.46
Per billion cubic feet of annual removals	3.17

*SAMPLING ERRORS FOR COUNTY AND UNIT TOTALS,¹ IN TERMS OF
ONE STANDARD ERROR*

COUNTY	COMMERCIAL FOREST AREA	CUBIC-FOOT VOLUME OF GROWING STOCK		
		INVENTORY	GROWTH	REMOVALS
- - - - - SAMPLING ERROR ² - - - - -				
BROWARD	0.00	.00	.00	.00
CHARLOTTE	13.62	28.68	30.04	71.41
COLLIER	9.12	16.72	15.95	42.12
DADE	0.00	.00	.00	.00
GLADES	7.30	31.67	20.40	69.67
HENDRY	17.84	27.70	23.10	45.39
LEE	18.99	35.93	22.98	50.27
MARTIN	22.59	47.69	52.95	101.96
MONROE	0.00	.00	.00	.00
PALM BEACH	0.00	.00	.00	.00
UNIT TOTAL	11.66	11.40	9.98	24.79

¹ SAMPLING ERROR OF BREAKDOWNS OF COUNTY AND UNIT TOTALS
MAY BE COMPUTED WITH THE FOLLOWING FORMULA:

$$E = \frac{(SE) \sqrt{(\text{SPECIFIED VOLUME OR AREA})}}{\sqrt{(\text{VOLUME OR AREA TOTAL IN QUESTION})}}$$

WHERE: E = SAMPLING ERROR OF THE VOLUME OR AREA TOTAL IN
QUESTION.

SE = SPECIFIED SAMPLING ERROR IN TABLE.

² BY RANDOM-SAMPLING FORMULA (IN PERCENT).

DEFINITIONS OF TERMS

Acceptable trees.--Growing-stock trees of commercial species that meet specified standards of size and quality, but not qualifying as desirable trees.

Basal area.--The area in square feet of the cross section at breast height of a single tree or of all the trees in a stand, usually expressed as square feet of basal area per acre.

Commercial forest land.--Forest land producing or capable of producing crops of industrial wood and not withdrawn from timber utilization.

Commercial species.--Tree species presently or prospectively suitable for industrial wood products.

Cropland.--Land under cultivation within the past 24 months, including orchards and land in soil-improving crops, but excluding land cultivated in developing improved pasture. Also includes idle farmland.

Desirable trees.--Growing-stock trees of commercial species having no serious defects in quality limiting present or prospective use for timber products, of relatively high vigor, and containing no pathogens that may result in death or serious deterioration before rotation age.

Diameter class.--A classification of trees based on diameter outside bark, measured at breast height (4-1/2 feet above the ground). D.b.h. is the common abbreviation for "diameter at breast height." Two-inch-diameter classes are commonly used in Forest Survey, with the even inch the approximate midpoint for a class. For example, the 6-inch class includes trees 5.0 through 6.9 inches d.b.h., inclusive.

Farm.--Lands on which agriculture operations are being conducted and sale of agriculture products totaled \$1,000 or more during the year.

Farm operator.--A person who operates a farm, either doing the work himself or directly supervising the work.

Farmer-owned lands.--Lands owned by farm operators.

Forest industry lands.--Lands owned by companies or individuals operating wood-using plants.

Forest land.--Land at least 16.7 percent stocked by forest trees of any size, or formerly having had such tree cover, and not currently developed for nonforest use.

Forest type.--A classification of forest land based upon the species forming a plurality of live-tree stocking.

Longleaf-slash pine.--Forests in which longleaf or slash pine, singly or in combination, comprises a plurality of the stocking. (Common associates include oak, hickory, and gum.)

Loblolly-shortleaf pine.--Forests in which loblolly pine, shortleaf pine, or other southern yellow pines, except longleaf or slash pine, singly or in combination, comprise a plurality of the stocking. (Common associates include oak, hickory, and gum.)

Oak-pine.--Forests in which hardwoods (usually upland oaks) comprise a plurality of the stocking but in which pines comprise 25 to 50 percent of the stocking. (Common associates include gum, hickory, and yellow-poplar.)

Oak-hickory.--Forests in which upland oaks or hickory, singly or in combination, comprise a plurality of the stocking, except where pines comprise 25 to 50 percent, in which case the stand would be classified oak-pine. (Common associates include yellow-poplar, elm, maple, and black walnut.)

Oak-gum-cypress.--Bottomland forests in which tupelo, blackgum, sweetgum, oaks, or southern cypress, singly or in combination, comprises a plurality of the stocking, except where pines comprise 25 to 50 percent, in which case the stand would be classified oak-pine. (Common associates include cottonwood, willow, ash, elm, hackberry, and maple.)

Elm-ash-cottonwood.--Forests in which elm, ash, or cottonwood, singly or in combination, comprises a plurality of the stocking. (Common associates include willow, sycamore, beech, and maple.)

Gross growth.--Annual increase in net volume of trees in the absence of cutting and mortality.

Growing-stock trees.--Live trees of commercial species qualifying as desirable or acceptable trees.

Growing-stock volume.--Net volume in cubic feet of growing-stock trees 5.0 inches d.b.h. and over from a 1-foot stump to a minimum 4.0-inch top diameter outside bark of the central stem, or to the point where the central stem breaks into limbs. (Net volume in primary forks is included.)

Hardwoods.--Dicotyledonous trees, usually broad-leaved and deciduous.

Soft hardwoods.--Soft-textured hardwoods such as boxelder, red and silver maple, buckeye, hackberry, loblolly-bay, silverbell (in mountains), butternut, sweetgum, yellow-poplar, cucumbertree, magnolia, sweetbay, water tupelo, blackgum, sycamore, cottonwood, black cherry, willow, basswood, and elm.

Hard hardwoods.--Hard-textured hardwoods such as Florida and sugar maple, birch, hickory, dogwood, persimmon (forest grown), beech, ash, honeylocust, holly, black walnut, mulberry, all commercial oaks, and black locust.

Idle farmland.--Includes former croplands, orchards, improved pastures and farm sites not tended within the past 2 years, and presently less than 16.7 percent stocked with trees.

Improved pasture.--Land currently improved for grazing by cultivation, seeding, irrigation, or clearing of trees or brush.

Industrial wood.--All roundwood products except fuelwood.

Land area.--The area of dry land and land temporarily or partly covered by water such as marshes, swamps, and river flood plains (omitting tidal flats below mean high tide); streams, sloughs, estuaries, and canals less than 1/8 of a statute mile in width; and lakes, reservoirs, and ponds less than 40 acres in area.

Logging residues.--The unused portions of trees cut or killed by logging.

Miscellaneous Federal lands.--Federal lands other than National Forests, lands administered by the Bureau of Land Management, and Indian lands.

Miscellaneous private lands - corporate.--Lands owned by private corporations other than forest industry.

Miscellaneous private lands - individual.--Privately owned lands other than forest-industry, farmer-owned, or corporate lands.

Mortality.--Number or sound-wood volume of live trees dying from natural causes during a specified period.

National Forest land.--Federal lands which have been legally designated as National Forests or purchase units, and other lands under the administration of the Forest Service, including experimental areas and Bankhead-Jones Title III lands.

Net annual growth.--The increase in volume for a specific year.

Net volume.--Gross volume less deductions for rot, sweep, or other defect affecting use for timber products.

Noncommercial forest land.--(a) Unproductive forest land incapable of yielding crops of industrial wood because of adverse site conditions, and (b) productive-reserved forest land.

Noncommercial species.--Tree species of typically small size, poor form, or inferior quality which normally do not develop into trees suitable for industrial wood products.

Nonforest land.--Land that has never supported forests and lands formerly forested where timber management is precluded by development for other uses.

Nonstocked land.--Commercial forest land less than 16.7 percent stocked with growing-stock trees.

Other Federal lands.--Federal lands other than National Forests, including lands administered by the Bureau of Land Management, Bureau of Indian Affairs, and other Federal agencies.

Other public lands.--Publicly owned lands other than National Forests.

Overstocked areas.--Areas where growth of trees is significantly reduced by excessive numbers of trees.

Poletimber trees.--Growing-stock trees of commercial species at least 5.0 inches in d.b.h. but smaller than sawtimber size.

Productive-reserved forest land.--Forest land sufficiently productive to qualify as commercial forest land, but withdrawn from timber utilization through statute or administrative designation.

Rangeland.--Land on which the natural plant cover is composed principally of native grasses, forbs, or shrubs valuable for forage.

Rotten trees.--Live trees of commercial species that do not contain at least one 12-foot saw log, or two noncontiguous saw logs, each 8 feet or longer, now or prospectively, primarily because of rot or missing sections, and with less than one-third of the gross tree volume in sound material.

Rough trees.--(a) Live trees of commercial species that do not contain at least one 12-foot saw log, or two noncontiguous saw logs, each 8 feet or longer, now or prospectively, primarily because of roughness, poor form, splits, and cracks, and with less than one-third of the gross tree volume in sound material; and (b) all live trees of noncommercial species.

Salvable dead trees.--Standing or down dead trees that are considered merchantable by Forest Survey standards.

Saplings.--Live trees 1.0 to 5.0 inches in diameter at breast height.

Saw log.--A log meeting minimum standards of diameter, length, and defect, including logs at least 8 feet long, sound and straight, and with a minimum diameter inside bark for softwoods of 6 inches (8 inches for hardwoods).

Saw-log portion.--That part of the bole of sawtimber trees between the stump and the saw-log top.

Saw-log top.--The point on the bole of sawtimber trees above which a saw log cannot be produced. The minimum saw-log top is 7.0 inches d.o.b. for softwoods and 9.0 inches d.o.b. for hardwoods.

Sawtimber trees.--Live trees of commercial species containing at least a 12-foot saw log, or two noncontiguous saw logs, each 8 feet or longer, and with at least one-third of the gross board-foot volume between the 1-foot stump and minimum saw-log top being sound. Softwoods must be at least 9.0 inches and hardwoods at least 11.0 inches in diameter at breast height.

Sawtimber volume.--Net volume of the saw-log portion of live sawtimber in board-foot International 1/4-inch rule.

Seedlings.--Live trees less than 1.0 inch in diameter at breast height that are expected to survive and develop.

Site class.--A classification of forest land in terms of inherent capacity to grow crops of industrial wood based on fully stocked natural stands.

Class 1.--Sites capable of producing 165 or more cubic feet per acre annually.

Class 2.--Sites capable of producing 120 to 165 cubic feet per acre annually.

Class 3.--Sites capable of producing 85 to 120 cubic feet per acre annually.

Class 4.--Sites capable of producing 50 to 85 cubic feet per acre annually.

Class 5.--Sites incapable of producing 50 cubic feet per acre annually, but excluding unproductive sites.

Softwoods.--Coniferous trees, usually evergreen, having needles or scale-like leaves.

Pines.--Yellow pine species which include loblolly, longleaf, slash, shortleaf, pitch, Virginia, Table Mountain, sand, and spruce pine.

Other softwoods.--White pine, hemlock, cypress, eastern redcedar, white-cedar, spruce, and fir.

Stand-size class.--A classification of forest land based on the size class of growing-stock trees on the area.

Sawtimber stands.--Stands at least 16.7 percent stocked with growing-stock trees, with half or more of total stocking in sawtimber or poletimber trees, and with sawtimber stocking at least equal to poletimber stocking.

Poletimber stands.--Stands at least 16.7 percent stocked with growing-stock trees of which half or more of this stocking is in poletimber and sawtimber trees, and with poletimber stocking exceeding that of sawtimber.

Sapling-seedling stands.--Stands at least 16.7 percent stocked with growing-stock trees of which more than half of the stocking is saplings and seedlings.

State, county, and municipal lands.--Lands owned by States, counties, and local public agencies or municipalities, or lands leased to these governmental units for 50 years or more.

Stocking.--The degree of occupancy of land by trees, measured by basal area or the number of trees in a stand and spacing in the stand, compared to a minimum standard, depending on tree size, to fully utilize the growth potential of the land. (See page 12.)

Timber removals.--The net volume of growing-stock trees removed from the inventory by harvesting; cultural operations, such as stand improvement; land clearing, or changes in land use.

Unproductive forest land.--Forest land incapable of producing 20 cubic feet per acre of industrial wood under natural conditions, because of adverse site conditions.

Upper-stem portion.--That part of the main stem or fork of sawtimber trees above the saw-log top to a minimum top diameter of 4.0 inches outside bark or to the point where the main stem or fork breaks into limbs.

Urban and other areas.--Areas within the legal boundaries of cities and towns; suburban areas developed for residential, industrial, or recreational purposes; school yards; cemeteries; roads; railroads; airports; beaches; powerlines and other rights-of-way; or other nonforest land not included in any other specified land use class.

STOCKING STANDARD

D.B.H. CLASS	MINIMUM NUMBER OF TREES PER ACRE FOR FULL STOCKING	MINIMUM BASAL AREA PER ACRE FOR FULL STOCKING	PERCENT STOCKING ASSIGNED EACH TALLY TREE'
SEEDLINGS	600	--	5.0
2	560	--	5.4
4	460	--	6.5
6	340	67	5.8
8	240	84	4.8
10	155	85	4.3
12	115	90	4.0
14	90	96	3.8
16	72	101	3.7
18	60	106	3.5
20	51	111	3.5

' STOCKING PERCENTAGES BASED ON TALLY AT ALL 10 POINTS OF A 10-POINT CLUSTER OF PLOTS. TREES LESS THAN 5 INCHES D.B.H. WERE TALLIED ON CIRCULAR, 1/300-ACRE PLOTS AT EACH POINT. TREES 5.0 INCHES D.B.H. AND LARGER WERE TALLIED ON VARIABLE PLOTS USING A BASAL AREA FACTOR OF 37.5 AT EACH SAMPLE POINT.

OVERSTOCKED--OVER 130 PERCENT

FULLY STOCKED--100-130 PERCENT

MEDIUM STOCKED--60-99 PERCENT

POORLY STOCKED--16.7-59 PERCENT

NONSTOCKED--LESS THAN 16.7 PERCENT

CUBIC FEET OF WOOD PER AVERAGE CORD (EXCLUDING BARK)

D.B.H. CLASS	ALL SPECIES	PINE	OTHER SOFTWOOD	HARDWOOD
6	65.1	61.0	68.2	60.0
8	73.1	68.1	76.0	68.4
10	78.0	73.1	81.4	73.4
12	81.6	76.7	85.2	76.4
14	83.6	79.4	88.2	78.4
16	86.8	81.6	90.4	79.8
18	88.2	83.3	92.3	80.8
20	89.8	84.8	93.8	81.5
22	89.9	86.0	95.1	82.1
24+	91.3	87.0	97.8	82.9
AVERAGE	77.3	71.5	80.7	73.7

COUNTY TABLES

THE COUNTY TABLES ARE INTENDED FOR USE IN COMPILING FOREST RESOURCE ESTIMATES FOR GROUPS OF COUNTIES. BECAUSE THE SAMPLING PROCEDURE USED BY THE FOREST SURVEY WAS INTENDED PRIMARILY TO FURNISH INVENTORY DATA FOR THE SURVEY UNIT AS A WHOLE, INDIVIDUAL COUNTY ESTIMATES HAVE LIMITED AND VARIABLE ACCURACY. AS COUNTY TOTALS ARE BROKEN DOWN BY VARIOUS SUBDIVISIONS, THE POSSIBILITY OF ERROR INCREASES AND IS GREATEST FOR THE SMALLEST ITEMS. THE ORDER OF THIS INCREASE CAN BE COMPUTED WITH THE FORMULA ON PAGE 5.

TABLE 1. --AREA, BY LAND CLASS AND COUNTY, 1980

COUNTY	ALL LAND ¹	FOREST LAND			NONFOREST LAND ²
		TOTAL	COMMERCIAL FOREST	UNPRODUCTIVE FOREST	
----- ACRES -----					
BROWARD	777,502	32,473	---	32,473	745,029
CHARLOTTE	458,729	111,561	65,648	45,913	347,168
COLLIER	1,297,035	743,661	415,191	158,558	553,374
DADE	1,250,756	209,959	---	186,872	1,040,797
GLADES	570,440	99,717	88,904	10,813	470,723
HENDRY	745,872	120,181	110,011	9,990	625,691
LEE	569,547	171,039	120,016	51,023	398,508
MARTIN	349,153	54,645	34,201	12,143	294,508
MONROE	645,715	372,589	---	309,204	273,126
PALM BEACH	1,254,622	131,765	---	131,765	1,122,857
TOTAL	7,919,371	2,047,590	833,971	948,754	5,871,781

¹ FROM U. S. BUREAU OF THE CENSUS AND U. S. GEOLOGICAL SURVEY.

² INCLUDES 244,492 ACRES OF WATER ACCORDING TO SURVEY STANDARDS OF AREA CLASSIFICATION, BUT DEFINED BY THE GEOLOGICAL SURVEY AND BUREAU OF THE CENSUS AS LAND.

TABLE 2. -- AREA OF COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND COUNTY, 1980

COUNTY	ALL OWNERSHIPS	OWNERSHIP CLASS							
		NATIONAL FOREST	MISCELLANEOUS FEDERAL	STATE	COUNTY AND MUNICIPAL	FOREST INDUSTRY	FARMER	MISCELLANEOUS PRIVATE	
								CORPORATE	INDIVIDUAL
					ACRES				
BROWARD	--	--	--	--	--	--	--	--	--
CHARLOTTE	65,648	--	--	140	887	--	--	38,014	26,607
COLLIER	415,191	--	--	--	2,530	--	153,435	52,903	206,323
DADE	--	--	--	--	--	--	--	--	--
GLADES	88,904	--	205	--	15	--	2,957	79,814	5,913
HENDRY	110,011	--	6,100	--	46	--	31,160	67,512	5,193
LEE	120,016	--	--	--	--	--	38,405	38,407	43,204
MARTIN	34,201	--	--	45	247	--	2,422	14,533	16,954
MONROE	--	--	--	--	--	--	--	--	--
PALM BEACH	--	--	--	--	--	--	--	--	--
TOTAL	833,971	--	6,305	185	3,725	--	228,379	291,183	304,194

TABLE 3. -- AREA OF COMMERCIAL FOREST LAND, BY FOREST-TYPE GROUP AND COUNTY, 1980

COUNTY	ALL TYPE GROUPS	FOREST-TYPE GROUP								
		WHITE PINE- HEMLOCK	SPRUCE- FIR	LONGLEAF- SLASH	LOBLOLLY- SHORTLEAF	OAK- PINE	OAK- HICKORY	OAK-GUM- CYPRESS-1	ELM-ASH- COTTONWOOD	MAPLE-BEECH- BIRCH
							ACRES			
BROWARD	65,648	-	-	-	-	-	-	-	-	-
CHARLOTTE	415,191	-	-	39,040	-	3,801	-	22,807	-	-
COLLIER	-	-	-	79,353	-	15,872	-	309,384	5,291	-
DADE	-	-	-	-	-	-	-	-	-	-
GLADES	88,904	-	-	47,297	-	2,956	-	38,651	-	-
HENDRY	110,011	-	-	51,932	-	5,193	5,239	47,647	-	-
LEE	120,016	-	-	72,009	-	4,800	4,801	38,406	-	-
MARTIN	34,201	-	-	14,824	-	2,423	4,844	12,110	-	-
MONROE	-	-	-	-	-	-	-	-	-	-
PALM BEACH	-	-	-	-	-	-	-	-	-	-
TOTAL	833,971	-	-	304,455	-	35,045	20,175	469,005	5,291	-

¹ INCLUDES 138,958 ACRES OF PALM AND OTHER TROPICAL FOREST TYPES.

TABLE 4. --AREA OF COMMERCIAL FOREST LAND, BY STAND-SIZE CLASS
AND COUNTY, 1980

COUNTY	ALL STANDS	STAND-SIZE CLASS			NONSTOCKED AREAS
		SAWTIMBER	POLETIMBER	SAPLING- SEEDLING	
- - - - - ACRES - - - - -					
BROWARD	--	--	--	--	--
CHARLOTTE	65,648	20,033	19,006	7,603	19,006
COLLIER	415,191	124,217	142,841	52,903	95,230
DADE	--	--	--	--	--
GLADES	88,904	20,692	23,649	29,662	14,901
HENDRY	110,011	53,965	33,193	17,614	5,239
LEE	120,016	4,801	57,610	38,403	19,202
MARTIN	34,201	7,266	5,136	12,111	9,688
MONROE	--	--	--	--	--
PALM BEACH	--	--	--	--	--
TOTAL	833,971	230,974	281,435	158,296	163,266

TABLE 5. --AREA OF COMMERCIAL FOREST LAND, BY SITE CLASS AND COUNTY, 1980

COUNTY	ALL CLASSES	SITE CLASS				
		1	2	3	4	5
----- ACRES -----						
BROWARD	--	--	--	--	--	--
CHARLOTTE	65,648	--	--	--	42,839	22,809
COLLIER	415,191	--	--	5,291	126,973	282,927
DADE	--	--	--	--	--	--
GLADES	88,904	--	--	--	56,180	32,724
HENDRY	110,011	--	--	--	72,750	37,261
LEE	120,016	--	--	--	14,402	105,614
MARTIN	34,201	--	--	--	12,110	22,091
MONROE	--	--	--	--	--	--
PALM BEACH	--	--	--	--	--	--
TOTAL	833,971	--	--	5,291	325,254	503,426

TABLE 6. --AREA OF COMMERCIAL FOREST LAND, BY STOCKING CLASSES OF GROWING-STOCK TREES, BY COUNTY, 1980

COUNTY	ALL CLASSES	STOCKING PERCENTAGE ¹				
		OVER 130	100-130	60-99	16.7-59	LESS THAN 16.7
----- ACRES -----						
BROWARD	--	--	--	--	--	--
CHARLOTTE	65,648	3,801	15,205	8,630	19,006	19,006
COLLIER	415,191	15,873	74,071	100,518	129,499	95,230
DADE	--	--	--	--	--	--
GLADES	88,904	2,956	5,912	23,648	41,487	14,901
HENDRY	110,011	10,386	15,580	25,967	52,839	5,239
LEE	120,016	--	19,203	24,004	57,607	19,202
MARTIN	34,201	--	9,935	2,468	12,110	9,688
MONROE	--	--	--	--	--	--
PALM BEACH	--	--	--	--	--	--
TOTAL	833,971	33,016	139,906	185,235	312,548	163,266

¹ SEE STOCKING STANDARDS ON PAGE 12.

TABLE 7. -- VOLUME OF SAWTIMBER AND GROWING STOCK ON COMMERCIAL FOREST LAND, BY SPECIES GROUP AND COUNTY, 1980

COUNTY	SAWTIMBER			GROWING STOCK						
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD

FACTORS FOR CONVERTING TO CORDS ARE SHOWN ON PAGE 12.

TABLE 10. --AREA OF COMMERCIAL FOREST LAND, BY FOREST TYPE AND OWNERSHIP CLASS, 1980

FOREST TYPE	ALL OWNERSHIPS	OWNERSHIP CLASS				
		NATIONAL FOREST	OTHER PUBLIC	FOREST INDUSTRY	FARMER	MISC. PRIVATE
ACRES						
SOFTWOOD TYPES:						
WHITE PINE-HEMLOCK	--	--	--	--	--	--
SPRUCE-FIR	--	--	--	--	--	--
LONGLEAF PINE	5,912	--	--	--	--	5,912
SLASH PINE	298,543	--	1,319	--	49,773	247,451
LOBLOLLY PINE	--	--	--	--	--	--
SHORTLEAF PINE	--	--	--	--	--	--
VIRGINIA PINE	--	--	--	--	--	--
SAND PINE	--	--	--	--	--	--
EASTERN REDCEDAR	--	--	--	--	--	--
POND PINE	--	--	--	--	--	--
SPRUCE PINE	--	--	--	--	--	--
PITCH PINE	--	--	--	--	--	--
TABLE-MOUNTAIN PINE	--	--	--	--	--	--
TOTAL	304,455	--	1,319	--	49,773	253,363
HARDWOOD TYPES:						
OAK-PINE	35,045	--	--	--	15,382	19,663
OAK-HICKORY	5,239	--	46	--	5,193	--
CHESTNUT OAK	--	--	--	--	--	--
SOUTHERN SCRUB OAK	14,936	--	--	--	--	14,936
OAK-GUM-CYPRESS	469,005	--	8,850	--	152,740	307,415
ELM-ASH-COTTONWOOD	5,291	--	--	--	5,291	--
MAPLE-BEECH-BIRCH	--	--	--	--	--	--
TOTAL	529,516	--	8,896	--	178,606	342,014
ALL TYPES	833,971	--	10,215	--	228,379	595,377

¹INCLUDES 138,958 ACRES OF PALM AND OTHER TROPICAL FOREST TYPES.

TABLE 11. --AREA OF COMMERCIAL FOREST LAND, BY OWNERSHIP AND STOCKING CLASSES OF GROWING-STOCK TREES, 1980

OWNERSHIP CLASSES	ALL CLASSES	STOCKING PERCENTAGE ¹				
		OVER 130	100-130	60-99	16.7-59	LESS THAN 16.7
ACRES						
NATIONAL FOREST	--	--	--	--	--	--
OTHER PUBLIC	10,215	--	247	1,072	8,732	164
FOREST INDUSTRY	--	--	--	--	--	--
FARMER	228,379	21,066	47,618	31,453	81,027	47,215
MISC. PRIVATE	595,377	11,950	92,041	152,710	222,789	115,887
ALL OWNERSHIPS	833,971	33,016	139,906	185,235	312,548	163,266

¹SEE STOCKING STANDARDS ON PAGE 12.

TABLE 12. -- VOLUME OF TIMBER ON COMMERCIAL FOREST LAND, BY CLASS AND SPECIES GROUP, 1980

CLASS OF TIMBER	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
-- -- -- -- -- THOUSAND CUBIC FEET -- -- -- -- --					
SAWTIMBER TREES:					
SAW-LOG PORTION	312,638	87,934	224,704	--	--
UPPER-STEM PORTION	64,137	8,697	22,224	17,932	15,284
TOTAL	376,775	96,631	246,928	17,932	15,284
POLETIMBER TREES	216,818	64,709	133,665	12,252	6,192
ALL GROWING-STOCK TREES	593,593	161,340	380,593	30,184	21,476
ROUGH TREES:					
SAWTIMBER-SIZE TREES	38,255	292	13,518	2,796	21,649
POLETIMBER-SIZE TREES	45,039	521	21,993	8,058	14,467
TOTAL	83,294	813	35,511	10,854	36,116
ROTTEN TREES:					
SAWTIMBER-SIZE TREES	3,780	--	2,161	743	876
POLETIMBER-SIZE TREES	1,424	--	1,191	--	233
TOTAL	5,204	--	3,352	743	1,109
SALVABLE DEAD TREES:					
SAWTIMBER-SIZE TREES	--	--	--	--	--
POLETIMBER-SIZE TREES	--	--	--	--	--
TOTAL	--	--	--	--	--
TOTAL, ALL TIMBER	682,091	162,153	419,456	41,781	58,701

TABLE 13. --NUMBER OF GROWING-STOCK TREES ON COMMERCIAL FOREST, AND, BY SPECIES AND DIAMETER CLASS, 1980

SPECIES	ALL CLASSES	DIAMETER CLASS (INCHES AT BREAST HEIGHT)									
		5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0 AND LARGER
THOUSAND TREES											
SOFTWOOD:											
LONGLEAF PINE	122		122								
SLASH PINE	27,657	13,174	7,589	3,850	1,666	913	265	154	28	18	
SHORTLEAF PINE											
LOBLOLLY PINE											
POND PINE											
VIRGINIA PINE											
PITCH PINE											
TABLE-MOUNTAIN PINE											
SPRUCE PINE											
SAND PINE	80										
EASTERN WHITE PINE											
EASTERN HEMLOCK											
SPRUCE AND FIR											
BALDCYPRESS	5,508	1,517	1,265	870	1,136	304	162	198	37	19	
POND CYPRESS	48,236	19,011	15,239	7,470	3,155	1,744	900	395	246	168	18
CEDARS											
TOTAL SOFTWOODS	81,603	33,782	24,215	12,190	5,957	2,961	1,227	737	311	205	18
HARDWOOD:											
SELECT WHITE OAKS											
SELECT RED OAKS											
CHESTNUT OAK											
OTHER WHITE OAKS	366	135	345	152	22	37		11		9	
OTHER RED OAKS	1,921	584		297	412	117	55	22	35	59	
HICKORY											
YELLOW BIRCH											
HARD MAPLE											
SOFT MAPLE	2,496	517	660	396	377	433	27	61	17	8	
BEECH											
SWEETGUM											
TUPELO AND BLACKGUM	100		65	35							
ASH											
COTTONWOOD											
BASSWOOD											
YELLOW-POPLAR											
BAY AND MAGNOLIA	493	176	123	164	30						
BLACK CHERRY											
BLACK WALNUT											
SYCAMORE											
BLACK LOCUST											
ELM	53										
OTHER EASTERN HARDWOODS	102		102								
TOTAL HARDWOODS	5,531	1,412	1,348	1,044	841	582	82	94	42	76	
ALL SPECIES	87,134	35,194	25,563	13,234	6,798	3,543	1,309	831	363	281	18

TABLE 14. -- VOLUME OF ALL LIVE TREES ON COMMERCIAL FOREST LAND, BY SPECIES AND DIAMETER CLASS, 1980

SPECIES	ALL CLASSES	DIAMETER CLASS (INCHES AT BREAST HEIGHT)										29.0 AND LARGER	
		5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9			
THOUSAND CUBIC FEET													
SOFTWOOD:													
LONGLEAF PINE	485												
SLASH PINE	161,448	28,159	36,366	35,983	23,935	20,486	8,569	5,705	1,307		938		
SHORTLEAF PINE													
LOBLOLLY PINE													
POND PINE													
VIRGINIA PINE													
PITCH PINE													
TABLE-MOUNTAIN PINE													
SPRUCE PINE													
SAND PINE	220												
EASTERN WHITE PINE													
EASTERN HEMLOCK													
SPRUCE AND FIR													
BALDCYPRESS	62,986	5,716	7,426	9,184	18,024	7,202	4,767	7,565	1,727	1,375			
PONDCEYPRESS	356,470	58,044	85,663	72,130	46,146	34,724	22,061	12,710	10,663	11,768	2,561		
CEDARS													
TOTAL SOFTWOODS	581,609	92,139	129,940	117,297	88,105	62,412	35,397	25,980	13,697	14,081	2,561		
HARDWOOD:													
SELECT WHITE OAKS													
SELECT RED OAKS													
CHESTNUT OAK													
OTHER WHITE OAKS	17,096	835	1,593	2,672	1,621	3,775	3,034	1,901	1,226	439			
OTHER RED OAKS	34,445	2,521	3,014	3,814	7,300	3,955	2,060	1,858	2,262	7,124	537		
HICKORY													
YELLOW BIRCH													
HARD MAPLE													
SOFT MAPLE	34,437	2,625	5,654	5,478	6,299	9,128	804	2,343	892	1,214			
BEECH													
SWEETGUM	1,031		294	361	376								
TUPELO AND BLACKGUM	1,430												
ASH		1,430											
COTTONWOOD													
BASSWOOD													
YELLOW-POPLAR													
BAY AND MAGNOLIA	3,436	833	686	1,502	415								
BLACK CHERRY													
BLACK WALNUT													
SYCAMORE													
BLACK LOCUST													
ELM	271		271										
OTHER EASTERN HARDWOODS	8,336	4,073	2,665	881	527	190							
TOTAL HARDWOODS	100,482	12,317	14,177	14,708	16,538	17,048	5,898	6,102	4,380	8,777	537		
ALL SPECIES	682,091	104,456	144,117	132,005	104,643	79,460	41,295	32,082	18,077	22,858	3,098		

TABLE 15.---VOLUME OF GROWING STOCK ON COMMERCIAL FOREST LAND, BY SPECIES AND DIAMETER CLASS, 1980

SPECIES	ALL CLASSES	DIAMETER CLASS (INCHES AT BREAST HEIGHT)										29.0 AND LARGER
		5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9		
THOUSAND CUBIC FEET												
SOFTWOOD:												
LONGLEAF PINE	485											
SLASH PINE	160,635	27,638	36,366	35,691	23,935	20,486	8,569	5,705	1,307	938		
SHORTLEAF PINE												
LOBLOLLY PINE												
POND PINE												
VIRGINIA PINE												
PITCH PINE												
TABLE-MOUNTAIN PINE												
SPRUCE PINE												
SAND PINE	220											
EASTERN WHITE PINE												
EASTERN HEMLOCK												
SPRUCE AND FIR												
BALDCYPRESS	61,318	5,159	6,968	8,806	17,749	7,202	4,767	7,565	1,727	1,375		
POND CYPRESS	319,275	46,397	75,141	63,556	43,118	33,626	20,537	12,710	10,663	10,966		2,561
CEDARS												
TOTAL SOFTWOODS	541,933	79,414	118,960	108,053	84,802	61,314	33,873	25,980	13,697	13,279		2,561
HARDWOOD:												
SELECT WHITE OAKS												
SELECT RED OAKS												
CHESTNUT OAK												
OTHER WHITE OAKS	3,018	187		914	256	759		463		439		
OTHER RED OAKS	18,458	1,278	1,412	2,401	4,269	1,585	1,498	596	1,298	4,121		
HICKORY												
YELLOW BIRCH												
HARD MAPLE												
SOFT MAPLE	25,460	1,012	3,349	3,582	4,239	8,527	804	2,343	892	712		
BEECH												
SWEETGUM												
TUPELO AND BLACKGUM	655		294	361								
ASH												
COTTONWOOD												
BASSWOOD												
YELLOW-POPLAR												
BAY AND MAGNOLIA	3,187	584	686	1,502	415							
BLACK CHERRY												
BLACK WALNUT												
SYCAMORE												
BLACK LOCUST												
ELM	271		271									
OTHER EASTERN HARDWOODS	611		611									
TOTAL HARDWOODS	51,660	3,061	6,623	8,760	9,179	10,871	2,302	3,402	2,190	5,272		
ALL SPECIES	593,593	82,475	125,583	116,813	93,981	72,185	36,175	29,382	15,887	18,551		2,561

TABLE 16. -- VOLUME OF SAW WOOD IN FOREST LAND, BY SPECIES AND D AVERAGE CLASS, 1983

SPECIES	ALL CLASSES	DIAMETER CLASS (INCHES AT BREAST HEIGHT)								21.0-28.9	29.0 AND LARGER
		9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9				
THOUSAND BOARD FEET											
SOFTWOOD:											
LONGLEAF PINE	447,463	133,701	109,079	107,224	48,736	34,389	8,166	6,168	--	--	
SLASH PINE	--	--	--	--	--	--	--	--	--	--	
SHORTLEAF PINE	--	--	--	--	--	--	--	--	--	--	
LOBLOLLY PINE	--	--	--	--	--	--	--	--	--	--	
POND PINE	--	--	--	--	--	--	--	--	--	--	
VIRGINIA PINE	--	--	--	--	--	--	--	--	--	--	
PITCH PINE	--	--	--	--	--	--	--	--	--	--	
TABLE-MOUNTAIN PINE	--	--	--	--	--	--	--	--	--	--	
SPRUCE PINE	--	--	--	--	--	--	--	--	--	--	
SAND PINE	--	--	--	--	--	--	--	--	--	--	
EASTERN WHITE PINE	--	--	--	--	--	--	--	--	--	--	
EASTERN HEMLOCK	--	--	--	--	--	--	--	--	--	--	
SPRUCE AND F.I.R.	--	--	--	--	--	--	--	--	--	--	
BALDCYPRESS	200,824	24,405	65,801	31,714	22,550	38,917	9,378	8,059	--	--	
POND CYPRESS	811,936	190,777	166,745	149,158	99,554	65,934	58,680	64,522	16,566	--	
CEDARS	--	--	--	--	--	--	--	--	--	--	
TOTAL SOFTWOODS	1,460,223	348,883	341,625	288,096	170,840	139,240	76,224	78,749	16,566	--	
HARDWOOD:											
SELECT WHITE OAKS	--	--	--	--	--	--	--	--	--	--	
SELECT RED OAKS	--	--	--	--	--	--	--	--	--	--	
CHESTNUT OAK	--	--	--	--	--	--	--	--	--	--	
OTHER WHITE OAKS	8,968	--	954	3,178	--	2,406	--	2,430	--	--	
OTHER RED OAKS	63,670	--	15,997	6,893	7,116	3,059	6,997	23,608	--	--	
HICKORY	--	--	--	--	--	--	--	--	--	--	
YELLOW BIRCH	--	--	--	--	--	--	--	--	--	--	
HARD MAPLE	--	--	--	--	--	--	--	--	--	--	
SOFT MAPLE	66,459	--	12,809	31,854	3,405	10,558	4,291	3,542	--	--	
BEECH	--	--	--	--	--	--	--	--	--	--	
SWEETGUM	--	--	--	--	--	--	--	--	--	--	
TUPELO AND BLACKGUM	--	--	--	--	--	--	--	--	--	--	
ASH	--	--	--	--	--	--	--	--	--	--	
COTTONWOOD	--	--	--	--	--	--	--	--	--	--	
BASSWOOD	--	--	--	--	--	--	--	--	--	--	
YELLOW-POPLAR	--	--	--	--	--	--	--	--	--	--	
BAY AND MAGNOLIA	1,279	--	1,279	--	--	--	--	--	--	--	
BLACK CHERRY	--	--	--	--	--	--	--	--	--	--	
BLACK WALNUT	--	--	--	--	--	--	--	--	--	--	
SYCAMORE	--	--	--	--	--	--	--	--	--	--	
BLACK LOCUST	--	--	--	--	--	--	--	--	--	--	
ELM	--	--	--	--	--	--	--	--	--	--	
OTHER EASTERN HARDWOODS	--	--	--	--	--	--	--	--	--	--	
TOTAL HARDWOODS	140,376	--	31,039	41,925	10,521	16,023	11,288	29,580	--	--	
ALL SPECIES	1,600,599	348,883	372,664	330,021	181,361	155,263	87,512	108,329	16,566	--	

TABLE 17. --NET ANNUAL GROWTH AND REMOVALS OF GROWING STOCK ON COMMERCIAL FOREST LAND, BY SPECIES, 1979

SPECIES	NET ANNUAL GROWTH	ANNUAL TIMBER REMOVALS
- - THOUSAND CUBIC FEET - -		
SOFTWOOD:		
YELLOW PINES	10,471	6,319
EASTERN WHITE PINE	--	--
SPRUCE AND FIR	--	--
CYPRESS	6,817	2,521
OTHER EASTERN SOFTWOODS	--	--
TOTAL SOFTWOODS	17,288	8,840
HARDWOOD:		
SELECT WHITE AND RED OAKS	--	--
OTHER WHITE AND RED OAKS	1,437	3,578
HICKORY	--	--
YELLOW BIRCH	--	--
HARD MAPLE	--	--
SWEETGUM	--	--
ASH, WALNUT, AND BLACK CHERRY	127	464
YELLOW-POPLAR	--	--
TUPELO AND BLACKGUM	35	--
BAY AND MAGNOLIA	290	--
OTHER EASTERN HARDWOODS	2,084	3,516
TOTAL HARDWOODS	3,973	7,558
ALL SPECIES	21,261	16,398

TABLE 18. --NET ANNUAL GROWTH AND REMOVALS OF SAWTIMBER ON COMMERCIAL FOREST LAND, BY SPECIES, 1979

SPECIES	NET ANNUAL GROWTH	ANNUAL TIMBER REMOVALS
- - - THOUSAND BOARD FEET - - -		
SOFTWOOD:		
YELLOW PINES	34,503	14,766
EASTERN WHITE PINE	--	--
SPRUCE AND FIR	--	--
CYPRESS	25,242	6,319
OTHER EASTERN SOFTWOODS	--	--
TOTAL SOFTWOODS	59,745	21,085
HARDWOOD:		
SELECT WHITE AND RED OAKS	--	--
OTHER WHITE AND RED OAKS	5,946	17,893
HICKORY	--	--
YELLOW BIRCH	--	--
HARD MAPLE	--	--
SWEETGUM	--	--
ASH, WALNUT, AND BLACK CHERRY	--	--
YELLOW-POPLAR	--	--
TUPELO AND BLACKGUM	191	--
BAY AND MAGNOLIA	597	--
OTHER EASTERN HARDWOODS	9,659	7,069
TOTAL HARDWOODS	16,393	24,962
ALL SPECIES	76,138	46,047

TABLE 19. --MORTALITY OF GROWING STOCK AND SAWTIMBER ON COMMERCIAL FOREST LAND, BY SPECIES, 1979

SPECIES	GROWING STOCK	SAWTIMBER
	THOUSAND CUBIC FEET	THOUSAND BOARD FEET
SOFTWOOD:		
YELLOW PINES	6,290	19,622
EASTERN WHITE PINE	--	--
SPRUCE AND FIR	--	--
CYPRESS	3,453	4,114
OTHER EASTERN SOFTWOODS	--	--
TOTAL SOFTWOODS	9,743	23,736
HARDWOOD:		
SELECT WHITE AND RED OAKS	--	--
OTHER WHITE AND RED OAKS	--	--
HICKORY	--	--
YELLOW BIRCH	--	--
HARD MAPLE	--	--
SWEETGUM	--	--
ASH, WALNUT, AND BLACK CHERRY	--	--
YELLOW-POPLAR	--	--
TUPELO AND BLACKGUM	129	505
BAY AND MAGNOLIA	--	--
OTHER EASTERN HARDWOODS	539	1,503
TOTAL HARDWOODS	668	2,008
ALL SPECIES	10,411	25,744

TABLE 20. --VOLUME OF ALL LIVE TREES AND GROWING STOCK ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1980

OWNERSHIP CLASS	ALL LIVE TREES				GROWING STOCK					
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
						THOUSAND CUBIC FEET				
NATIONAL FOREST	--	--	--	--	--	--	--	--	--	--
OTHER PUBLIC	19,907	2,076	7,659	6,043	4,129	11,483	2,076	5,441	2,851	1,115
FOREST INDUSTRY	--	--	--	--	--	--	--	--	--	--
FARMER	247,192	39,375	175,839	16,441	15,537	222,191	39,375	163,254	12,246	7,316
MISCELLANEOUS PRIVATE	414,992	120,702	235,958	19,297	39,035	359,919	119,889	211,898	15,087	13,045
ALL OWNERSHIPS	682,091	162,153	419,456	41,781	58,701	593,593	161,340	380,593	30,184	21,476

TABLE 21. --VOLUME OF SAWTIMBER ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1980

OWNERSHIP CLASS	SMALL SAWTIMBER ¹					LARGE SAWTIMBER ²				
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
THOUSAND BOARD FEET										
NATIONAL FOREST	--	--	--	--	--	--	--	--	--	--
OTHER PUBLIC	14,987	--	4,761	5,982	4,244	25,616	9,376	12,993	3,247	--
FOREST INDUSTRY	--	--	--	--	--	--	--	--	--	--
FARMER	426,658	114,425	282,021	19,442	10,770	183,173	12,377	144,667	6,876	19,253
MISCELLANEOUS PRIVATE	609,923	235,579	341,818	20,518	12,008	340,242	75,706	226,500	11,673	26,363
ALL OWNERSHIPS	1,051,568	350,004	628,600	45,942	27,022	549,031	97,459	384,160	21,796	45,616

¹ VOLUME OF SAWTIMBER TREES LESS THAN 15.0 INCHES AT D.B.H.

² VOLUME OF SAWTIMBER TREES 15.0 INCHES AND LARGER AT D.B.H.

TABLE 22. --NET ANNUAL GROWTH AND REMOVALS OF GROWING STOCK ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1979

OWNERSHIP CLASS	NET ANNUAL GROWTH				ANNUAL TIMBER REMOVALS				
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	HARD HARDWOOD
THOUSAND CUBIC FEET									
NATIONAL FOREST	--	--	--	--	--	--	--	--	--
OTHER PUBLIC	467	76	98	203	90	8,618	145	1,248	3,183
FOREST INDUSTRY	--	--	--	--	--	--	--	--	4,042
FARMER	6,674	2,136	2,990	982	566	2,438	1,483	622	--
MISCELLANEOUS PRIVATE	14,120	8,259	3,729	1,224	908	5,342	4,691	651	--
ALL OWNERSHIPS	21,261	10,471	6,817	2,409	1,564	16,398	6,319	2,521	4,042

TABLE 23. --NET ANNUAL GROWTH AND REMOVALS OF SAWTIMBER ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1979

OWNERSHIP CLASS	NET ANNUAL GROWTH				ANNUAL TIMBER REMOVALS				
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	HARD HARDWOOD
THOUSAND BOARD FEET									
NATIONAL FOREST	--	--	--	--	--	--	--	--	--
OTHER PUBLIC	1,727	216	491	670	350	29,383	566	3,855	7,069
FOREST INDUSTRY	--	--	--	--	--	--	--	--	17,893
FARMER	24,689	8,473	10,312	4,065	1,839	5,219	3,421	1,798	--
MISCELLANEOUS PRIVATE	49,722	25,814	14,439	5,712	3,757	11,445	10,779	666	--
ALL OWNERSHIPS	76,138	34,503	25,242	10,447	5,946	46,047	14,766	6,319	17,893

TABLE 24. --AVERAGE NET VOLUME PER ACRE OF SAWTIMBER, GROWING STOCK, AND OTHER LIVE TIMBER ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS, MAJOR FOREST TYPE, AND SPECIES GROUP, 1980

FOREST TYPE, SPECIES GROUP, AND CLASS OF MATERIAL	ALL OWNERSHIPS			OWNERSHIP CLASS					
	BOARD FEET	CUBIC FEET		NATIONAL FOREST	OTHER PUBLIC	FOREST INDUSTRY	FARMER	MISC. PRIVATE	
	BOARD FEET	CUBIC FEET		BOARD FEET	CUBIC FEET	BOARD FEET	CUBIC FEET	BOARD FEET	CUBIC FEET
PINE TYPES:									
GROWING STOCK:									
SOFTWOOD	1,119	460	--	--	--	--	2,000	725	946
HARDWOOD	--	--	--	--	--	--	--	--	408
TOTAL	1,119	460	--	--	--	--	2,000	725	946
OTHER TIMBER:									
SOFTWOOD	--	9	--	--	--	--	--	9	--
HARDWOOD	--	7	--	--	--	--	--	14	9
TOTAL	--	16	--	--	--	--	--	23	6
									15
OAK-PINE TYPES:									
GROWING STOCK:									
SOFTWOOD	1,136	331	--	--	--	--	1,130	306	1,141
HARDWOOD	--	--	--	--	--	--	--	--	350
TOTAL	1,136	331	--	--	--	--	1,130	306	1,141
OTHER TIMBER:									
SOFTWOOD	--	18	--	--	--	--	--	--	32
HARDWOOD	--	--	--	--	--	--	--	--	--
TOTAL	--	18	--	--	--	--	--	--	32
UPLAND HARDWOOD TYPES:									
GROWING STOCK:									
SOFTWOOD	85	15	--	--	--	--	--	--	112
HARDWOOD	1,407	343	--	--	--	--	5,804	1,413	20
TOTAL	1,492	358	--	--	--	--	5,804	1,413	112
OTHER TIMBER:									
SOFTWOOD	--	--	--	--	--	--	--	--	--
HARDWOOD	--	75	--	--	--	--	--	310	--
TOTAL	--	75	--	--	--	--	--	310	--
BOTTOMLAND HARDWOOD TYPES:									
GROWING STOCK:									
SOFTWOOD	2,254	816	--	--	1,207	334	2,813	1,043	2,044
HARDWOOD	234	93	--	--	599	176	183	82	232
TOTAL	2,488	909	--	--	1,806	510	2,996	1,125	2,276
OTHER TIMBER:									
SOFTWOOD	--	75	--	--	--	99	--	78	72
HARDWOOD	--	94	--	--	--	276	--	66	95
TOTAL	--	169	--	--	--	375	--	144	167
ALL TYPES:									
GROWING STOCK:									
SOFTWOOD	1,751	650	--	--	1,207	334	--	901	1,499
HARDWOOD	168	62	--	--	599	176	--	251	120
TOTAL	1,919	712	--	--	1,806	510	--	2,713	988
OTHER TIMBER:									
SOFTWOOD	--	48	--	--	--	99	--	56	--
HARDWOOD	--	58	--	--	--	276	--	55	42
TOTAL	--	106	--	--	--	375	--	111	51
									93
ALL TIMBER	1,919	818	--	--	1,806	885	--	2,713	1,099
									1,619
									706

'ROUGH AND ROTTEN TREES.

TABLE 25. --LAND AREA, BY CLASS, MAJOR FOREST TYPE, AND SURVEY COMPLETION DATE, 1959, 1970, AND 1980

LAND USE CLASS	SURVEY COMPLETION DATE			CHANGE 1970-1980
	1959	1970	1980	
- - - - - ACRES - - - - -				
FOREST LAND:				
COMMERCIAL FOREST LAND:				
PINE AND OAK-PINE TYPES	705,200	383,528	339,500	- 44,028
HARDWOOD TYPES	228,300	341,073	494,471	+153,398
TOTAL	933,500	724,601	833,971	+109,370
NONCOMMERCIAL FOREST LAND:				
PRODUCTIVE-RESERVED	54,400	50,600	264,865	+214,265
UNPRODUCTIVE	1,594,500	1,441,615	948,754	-492,861
TOTAL	1,648,900	1,492,215	1,213,619	-278,596
NONFOREST LAND:				
CROPLAND	427,300	849,364	926,660	+ 77,296
PASTURE AND RANGE	1,395,100	1,589,513	1,910,185	+320,672
OTHER	3,180,700	3,019,186	2,790,444	-228,742
TOTAL	5,003,100	5,458,063	5,627,289	+169,226
ALL LAND ¹	7,585,500	7,674,879	7,674,879	--

¹ EXCLUDES ALL WATER AREAS.

TABLE 26. -- VOLUME OF SAWTIMBER, GROWING STOCK, AND ALL LIVE TIMBER ON COMMERCIAL FOREST LAND, BY SPECIES GROUP, DIAMETER CLASS, AND SURVEY COMPLETION DATE

SPECIES GROUP	YEAR	ALL CLASSES	DIAMETER CLASS (INCHES AT BREAST HEIGHT)									
			5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0 AND LARGER	
SAWTIMBER (IN THOUSAND BOARD FEET)												
SOFTWOOD	1959	1,176,954	--	--	275,476	239,532	258,957	103,891	80,486	95,095	123,517	
	1970	1,191,014	--	--	309,348	213,658	276,085	156,672	105,431	57,592	72,228	
	1980	1,460,223	--	--	348,883	341,625	288,096	170,840	139,240	76,224	95,315	
HARDWOOD	1959	140,098	--	--	--	27,157	45,462	10,776	20,286	11,504	24,913	
	1970	140,098	--	--	--	31,436	41,069	11,800	13,979	9,988	26,080	
	1980	140,376	--	--	--	31,039	41,925	10,521	16,023	11,288	29,580	
GROWING STOCK (IN THOUSAND CUBIC FEET)												
SOFTWOOD	1959	485,536	117,871	94,562	85,313	59,452	55,109	20,597	15,016	17,088	20,528	
	1970	487,753	89,512	117,570	95,803	53,030	58,754	31,061	19,670	10,349	12,004	
	1980	541,933	79,414	118,960	108,053	84,802	61,314	33,873	25,980	13,697	15,840	
HARDWOOD	1959	58,148	6,807	7,272	10,915	8,030	11,787	2,358	4,307	2,232	4,440	
	1970	52,505	4,086	6,859	9,481	9,295	10,648	2,582	2,968	1,938	4,648	
	1980	51,660	3,061	6,623	8,760	9,179	10,871	2,302	3,402	2,190	5,272	
ALL LIVE TIMBER (IN THOUSAND CUBIC FEET)												
SOFTWOOD	1959	525,749	136,664	103,340	92,688	61,742	56,087	21,523	15,016	17,088	21,601	
	1970	526,303	103,784	128,487	104,085	55,078	59,793	32,462	19,670	10,349	12,595	
	1980	581,609	92,139	129,940	117,297	88,105	62,412	35,397	25,980	13,697	16,642	
HARDWOOD	1959	120,206	27,325	15,562	18,312	14,463	18,490	6,009	7,719	4,505	7,821	
	1970	104,382	16,401	14,676	15,910	16,745	16,708	5,590	5,339	3,837	8,176	
	1980	100,482	12,317	14,177	14,708	16,538	17,048	5,898	6,102	4,380	9,314	

TO PROVIDE A BASIS FOR VALUATION, ADJUSTMENTS HAVE BEEN MADE TO ALLOW FOR DIFFERENCES IN VOLUME TABLES AND SAWTIMBER SPECIFICATIONS USED IN PREVIOUS SURVEYS.

Southfield, Raymond M., and William A. Beardsall

1941. Forest statistics for South Florida, 1940. USDA For. Serv., Forest Res. St. Sta.,
Wp. Bulletin for 830. St. Augustine, Fla.

Since the South Florida Forest Statistics of 1940, the area of commercial forest land has increased by 109,000 acres and now totals 844,000 acres. Noncommercial private landowners control 99 percent of the commercial forest land. The volume of standing stock in forest lands has increased by 10 percent. Cypress accounts for 93 percent of the total volume. Not enough growth is growing more than 11 million cubic feet is attributed to the volume value had for actual timber (approximately).

KEYWORDS: Forest land, commercial forest land, forest ownership, timber, volume, timber growth, timber products.

Southfield, Raymond M., and William A. Beardsall

1941. Forest statistics for South Florida, 1940. USDA For. Serv., Forest Res. St. Sta.,
Wp. Bulletin for 830. St. Augustine, Fla.

Since the fourth edition of the Forest Statistics of South Florida in 1940, the area of commercial forest land has increased by 109,000 acres and now totals 844,000 acres. Noncommercial private landowners control 99 percent of the commercial forest land. The volume of standing stock in forest lands has increased by 10 percent. Cypress accounts for 93 percent of the total volume. Not enough growth is growing more than 11 million cubic feet is attributed to the volume value had for actual timber (approximately).

KEYWORDS: Forest land, commercial forest land, forest ownership, timber, volume, timber growth, timber products.



The Forest Service, U.S. Department of Agriculture, is dedicated to the principle of multiple use management of the Nation's forest resources for sustained yields of wood, water, forage, wildlife, and recreation. Through forestry research, cooperation with the States and private forest owners, and management of the National Forests and National Grasslands, it strives—as directed by Congress—to provide increasingly greater service to a growing Nation.

USDA policy does not permit discrimination because of race, color, national origin, sex or religion. Any person who believes he or she has been discriminated against in any USDA-related activity should write immediately to the Secretary of Agriculture, Washington, D.C. 20250.

United States
Department of
Agriculture
Forest Service



Southeastern Forest
Experiment Station
Resource Bulletin SE-60

Virginia's Pine Resource: an Interim Assessment, 1981



August 1981
Southeastern Forest Experiment Station
Asheville, North Carolina

Virginia's Pine Resource: an Interim Assessment, 1981

by
Raymond M. Sheffield, Resource Analyst
and
Gerald C. Craver, Forest Technician

Forest inventories in the Southeast traditionally have been conducted by the Renewable Resources Evaluation (RRE) Work Unit on cycles of approximately 10 years. For certain areas, a 10-year cycle is too long. High resource demand, extensive land-use changes, and widespread natural disturbances can quickly change the forest resource situation. A 5-year inventory cycle is needed in these critical areas according to many forestry leaders. Budget limitations, hiring restrictions, and increased workloads, however, dim the prospects of reducing the cycle of a full-scale inventory to 5 years. Interim surveys in selected areas, therefore, seem more practical for examining specific problems. The RRE Unit at the Southeastern Forest Experiment Station has now twice used an interim survey to provide timely data for a resource of concern in a critical area. The results of an interim survey of the major pine resource regions of Virginia are presented in this report. Some of the results presented differ slightly from preliminary results released shortly after completion of the survey.

THE VIRGINIA SITUATION

The interim survey in Virginia grew out of continuing concern over the pine resource. Over 73 percent of the volume of pine timber is in the Coastal Plain and Southern Piedmont Survey Units of that State. Most previous inventories since 1940 in these two regions have found pine volume declining and annual cut exceeding net growth. The latest inventory in 1976 showed some improvement, especially in the Southern Piedmont where pine stands established on old fields developed to substantially boost inventory volumes (Sheffield 1976). The Coastal Plain annual cut of pine still exceeded net growth, and pine inventory volume was declining in 1976 but at a much slower rate than in the previous inventory (Cost 1976). Another finding of the 1976 inventory was a substantial reduction in the number of 2- and 4-inch pine trees (Boyce and Knight 1979). Forestry leaders have been concerned for some time over these pine resource problems because Virginia has many industries dependent upon pine timber supplies. The problems identified have already led to enactment of landowner assistance legislation by the Virginia General Assembly (Sheffield 1978).

Despite some improvement in the pine resource, the situation has been viewed with some apprehension since 1976, and the next survey was not scheduled until 1985 or 1986. An ad hoc committee, made up of representatives from the Virginia Division of Forestry, local forest industries, Virginia Polytechnic Institute and State University, the Virginia Forestry Association, and the Lumber Manufacturers' Association of Virginia, requested a midcycle evaluation of the pine resource in Virginia. An interim survey of the pine resource in the Coastal Plain and Southern Piedmont of Virginia (fig. 1) resulted from this request.

The Virginia Division of Forestry coordinated the survey in cooperation with forest industries. The State Forester appointed a District Forester to coordinate the field operations of the industry survey crews for 3 months. Personnel, equipment, and transportation to conduct the fieldwork were provided by five forest products companies: Champion International, Chesapeake Corporation, Continental Forest Industries, Union Camp Corporation, and WESTVACO.

The 1981 interim survey could not have been accomplished without the generous contributions of these companies. All fieldwork was completed in 3 months. Lumber and other forest products companies contributed money to pay additional expenses such as training and other U.S. Forest Service expenses. Further assistance and support for the survey were provided by the Lumber Manufacturers' Association of Virginia, the Virginia Forestry Association, and Virginia Polytechnic Institute and State University.

Renewable Resources Evaluation provided technical assistance in designing the sample, trained the field crews, and processed the data.

INTERIM SURVEY TECHNIQUES

Procedures for this interim survey were basically the same as those for an interim survey of a seven-county area in South Carolina. The primary objective in both surveys was to determine changes in pine timber volume since the previous regular inventory. Details of the sampling and field procedures are described by Welch and Cathey (1976).



Figure 1.—Interim survey study area in Virginia.

In Virginia, all commercial forest sample locations that had yellow pines present in 1976 were relocated in the 51 counties in the Coastal Plain and Southern Piedmont. There are 2,280 permanent plots in the study area; on 1,592 of these plots at least one yellow pine tree 1.0 inch d.b.h. or larger was recorded in 1976. Field crews visited each of these 1,592 plots during the summer of 1980. At each of these locations, field crews accounted for each pine tree, regardless of tree class, and recorded on a remeasurement record form trees that died or were cut since 1976. Ingrowth pines (trees growing from below 5.0 inches d.b.h. to 5.0 inches or larger) were also recorded. Pines less than 5.0 inches d.b.h. in 1976 and still less than 5.0 inches in the interim survey were not recorded. Growth on surviving trees was computed, using average annual radial growth rates, by species and diameter classes. All hardwood trees recorded on the old sample record were ignored.

Area description was kept to a minimum. Crews recorded evidence of significant treatment or disturbance since the 1976 inventory and assigned a treatment opportunity code to describe the treatment needed, if any, to improve existing conditions for timber growth. All other area descriptive items used in this report are based on classifications made in 1976.

LIMITATIONS OF INTERIM DATA

The interim survey was designed to provide updated information on the pine resource at a low cost. Fieldwork in the Virginia interim survey was completed in about 3 months; the last regular inventory of the study area took 14 months for completion. Since procedures were streamlined, the interim survey cannot answer as many questions as a full-scale inventory.

A key question that remains unanswered about the pine resource is the number of 2- and 4-inch pine trees. As a result, little can be said about recent rates of pine regeneration. Pines 2 and 4 inches in diameter could be inventoried in an interim survey, but only by lengthening the data-collection process. Land which did not have a pine tree 1.0 inch d.b.h. or larger in 1976 could easily have such trees after 5 years due to planting, natural regeneration, and growth on existing seedlings. Therefore, all sample locations in commercial forest land would have to be visited regardless of whether a pine was present in the previous inventory. In addition, former nonforest lands now in forest would have to be inventoried.

RESULTS

PINE VOLUME UP 4 PERCENT

In 1976 the inventory of yellow pine in the study area totaled 3,725.9 million cubic feet (table 1). In 1981, it had increased by 4 percent to 3,874.2 million cubic feet. Over the 5-year period, net growth totaled 872.9 million cubic feet, while removals totaled 724.6 million cubic feet.

Table 1.—Change in volume of pine timber, by ownership class, in the Coastal Plain and Southern Piedmont of Virginia, 1976 to 1981

Item	All owners	Ownership class ^a			
		Public	Forest industry ^b	Farmer	Miscellaneous private
		<i>Thousand cubic feet</i>			
Inventory 1976	3,725,883	192,511	763,207	1,649,247	1,120,918
Period change: ^c					
Gross growth	1,049,033	43,177	294,054	396,804	314,998
Mortality	176,180	10,419	19,270	95,220	51,271
Net growth	872,853	32,758	274,784	301,584	263,727
Removals	724,562	31,733	174,917	344,447	173,465
Net change	+148,291	+1,025	+99,867	-42,863	+90,262
Inventory 1981	3,874,174	193,536	863,074	1,606,384	1,211,180

^aOwnership class as of 1976.

^bIncludes lands under long-term lease.

^cDoes not include ingrowth mortality or ingrowth removals.

Almost all the volume increase occurred on lands owned and leased by forest industry and on miscellaneous private woodlands. Pine volume increased by 13 percent on forest industry and by 8 percent on miscellaneous private land. Pine volume on public lands was essentially unchanged, while that on farmer-owned forest lands decreased by 3 percent over the period. Pine removals exceeded pine net growth by 14 percent on farm woodlots.

The volume of pine sawtimber increased by 3 percent during the interim period and now totals 11.2 billion board feet of sawtimber (table 2). Miscellaneous private woodlands supplied about two-thirds of the increase; sawtimber volume on this class of forest went up by 7 percent. Public and farm forests supplied the remaining portion of the sawtimber increase. Sawtimber volume increased by less than 2 percent on farm forests and almost 5 percent on public forests; it declined by just over 1 percent on lands owned and leased by forest industry.

The distribution of removals, inventory volume, and net growth among ownership classes changed somewhat (table 3). Farm woodlots supplied almost half the 1981 pine harvest, 4 percent more than in 1976. But farmers provided a lower percentage of the total inventory and net growth in 1981 than in 1976, while the opposite situation was found on industry lands. Industry forests supplied 31 percent of the net growth in 1981, up from 26 percent of the total in 1976. The share of net growth coming from farmer-owned forest land declined from 40 percent of the total in 1976 to 35 percent in 1981.

Table 4 shows estimates of average annual growth and removal volumes (period change divided by the remeasurement period) for each class of ownership. These estimates are not completely comparable with the 1976 averages because more sophisticated methods for arriving at annual estimates are used in a regular inventory. The comparisons with 1976 are made here, however, to point out some significant changes.

Net annual growth of pine timber has increased by 2 percent across all ownerships since 1976. On forest industry lands net growth has increased by 24 percent. But on the public and farm forests, pine net growth has decreased by 11 percent since 1976. Pine net growth on miscellaneous private woodlands has been rather stable, increasing by only 1 percent. Average annual pine removals since 1976 are down by nearly 14 percent from the average for the period between 1966 and 1976. This apparent reduction occurred on all ownership classes, but ranged from 5 percent on farmer-owned forest land to 28 percent on public forests. Because the comparison of annual removals in 1976 and 1981 is based on average annual removals over two periods (1966 to 1976 and 1976 to 1981), these averages may not accurately reflect the level of removals for the two stated years. There are indications that pine removals have risen slightly since 1976 (Welch and Bellamy 1980).

About 92 percent of the increase in cubic volume of pine timber was in one species—loblolly pine (table 5). The volume of loblolly pine increased by nearly 9 percent during the period. Virginia pine was the only other species to increase in volume, going up by 2 percent. The volume of shortleaf pine decreased by 9 percent since 1976.

Almost 41 percent of the pine volume increase occurred in the 8-inch diameter class (fig. 2). The 16-inch class accounted for another 27 percent. Pine volume losses were recorded for the 12- and 14-inch diameter classes.

Table 2.—Change in volume of pine sawtimber, by ownership class, in the Coastal Plain and Southern Piedmont of Virginia, 1976 to 1981

Item	All owners	Ownership class ^a			
		Public	Forest industry ^b	Farmer	Miscellaneous private
			<i>Thousand board feet</i>		
Inventory 1976	10,880,475	585,913	2,278,518	4,788,521	3,227,523
Period change: ^c					
Gross growth	3,181,345	159,613	656,149	1,372,842	992,741
Mortality	404,375	29,548	44,422	196,920	133,485
Net growth	2,776,970	130,065	611,727	1,175,922	859,256
Removals	2,473,545	101,933	644,698	1,090,482	636,432
Net change	+303,425	+28,132	-32,971	+85,440	+222,824
Inventory 1981	11,183,900	614,045	2,245,547	4,873,961	3,450,347

^aOwnership class as of 1976.

^bIncludes lands under long-term lease.

^cDoes not include ingrowth mortality or ingrowth removals.

Table 3.—Distribution of commercial forest land and inventory volume, net growth, and removals of yellow pine, by ownership class and year of inventory, Coastal Plain and Southern Piedmont of Virginia

Item	Public	Forest industry ^a	Farmer	Miscellaneous private
----- <i>Percentage of total</i> -----				
Commercial forest acreage:				
1976	4	17	46	33
Inventory, all yellow pine:				
1976	5	21	44	30
1981	5	22	42	31
Net growth, all yellow pine:				
1976	4	26	40	30
1981	4	31	35	30
Removals, all yellow pine:				
1976	5	24	44	27
1981	4	24	48	24

^aIncludes lands under long-term lease.

Table 4.—Net annual growth and annual timber removals of yellow pine by ownership class and year of inventory, Coastal Plain and Southern Piedmont of Virginia

Ownership class ^a	Net annual growth ^b		Annual removals ^b	
	1976	1981	1976	1981
----- <i>Thousand cubic feet</i> -----				
Public	7,549	6,685	8,939	6,476
Forest industry ^c	45,135	56,078	41,690	35,698
Farmer	69,101	61,548	74,359	70,295
Miscellaneous private	53,103	53,822	46,096	35,401
All owners	174,888	178,133	171,084	147,870

^aOwnership class as of 1976.

^b1976 figures are an average for the period between 1966 and 1976; 1981 figures are an average for the period between 1976 and 1981.

^cIncludes lands under long-term lease.

Table 5.—Change in volume of pine timber on commercial forest land,
by species, Coastal Plain and Southern Piedmont of Virginia,
1976 to 1981

Species	Inventory in 1976	Net change between 1976 and 1981	Inventory in 1981
----- <i>Thousand cubic feet</i> -----			
Loblolly pine	2,171,315	186,106	2,357,421
Virginia pine	960,378	16,029	976,407
Shortleaf pine	556,694	-49,787	506,907
Pond pine	16,657	-1,163	15,494
Pitch pine	20,839	-2,894	17,945
All species	3,725,883	148,291	3,874,174

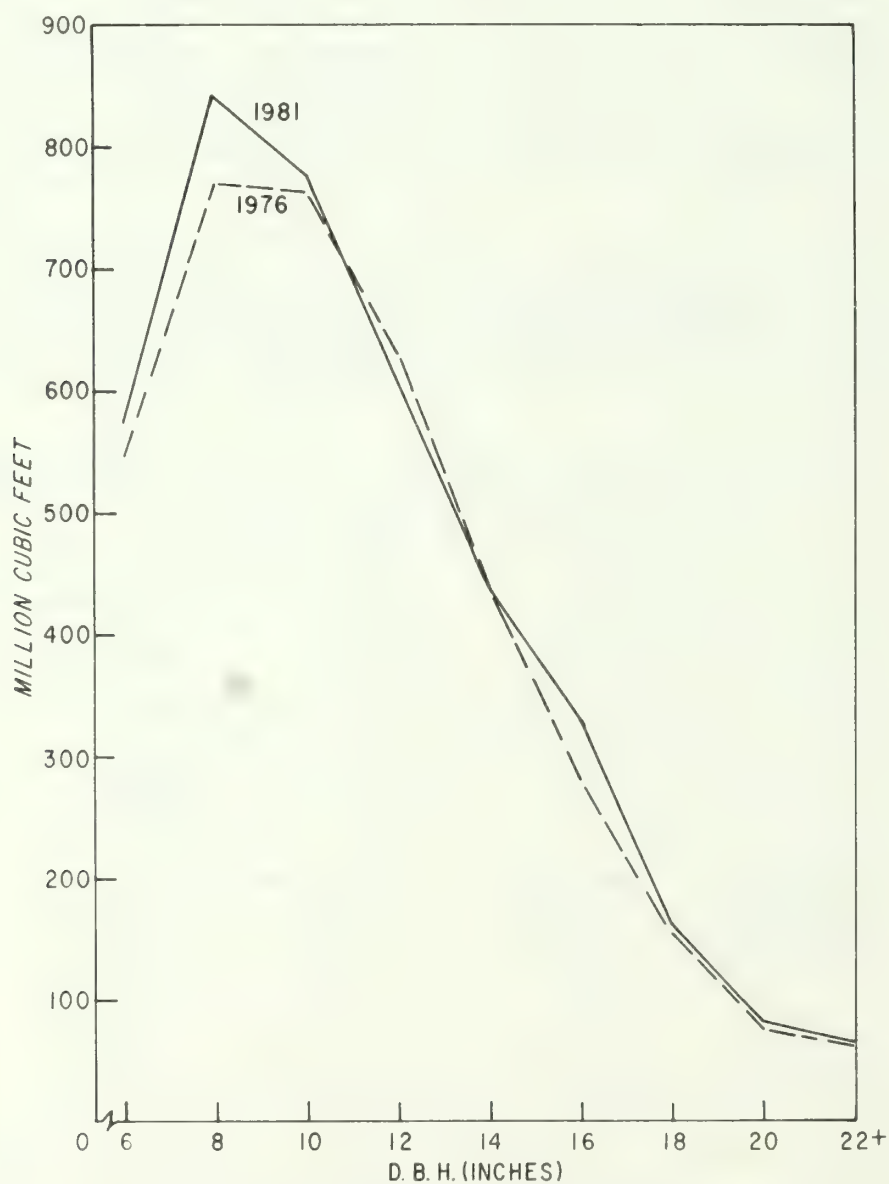


Figure 2.—Volume of yellow pine timber, by diameter class, Coastal Plain
and Southern Piedmont of Virginia, 1976 and 1981.

5.1 MILLION FEWER 6-INCH PINES

Table 6 shows the net change in the number of pine trees by diameter and ownership class. For the most part, these net changes in number of trees are consistent with the changes in volume. A 5.1-million tree decline in the 6-inch class seems inconsistent with the volume increase shown in figure 2. However, an in-depth look at the 6-inch class revealed that the loss in number of trees occurred in the lower portion (5.0 to 5.9 inches) of that class, while the upper portion of the class (6.0 to 6.9 inches) actually gained trees, resulting in the small net increase in volume.

The net change in number of trees for all owners masks rather large differences between the ownership classes. For instance, the number of 6-inch pine trees on lands owned and leased by forest industry increased by 13.2 million trees, or by 23 percent, and the number in the 8-inch class increased by 11.9 million trees, or by 56 percent. Forest industry was the only ownership class to show an increase in the number of 6-inch pine trees; two-thirds of the increase in 8-inch pines was on industry lands. On farmer-owned forest lands, the number of 6-inch pines declined by 12.2 million trees, a 15-percent reduction. The reduction in number of 6-inch pines totaled 3.4 million trees, or 6 percent, on miscellaneous private land, and 2.8 million trees, or 32 percent, on public forests. Substantial reductions in number of trees were also recorded in the 8-, 10-, and 12-inch diameter classes on farm forests.

Table 6.—Net change in number of pine trees on commercial forest land, by diameter and ownership class, Coastal Plain and Southern Piedmont of Virginia, 1976 to 1981

Ownership class ^a	All classes	Diameter class								
		6	8	10	12	14	16	18	20	22+
----- Thousand trees -----										
Public	-2,222	-2,780	332	294	-122	-52	104	2	2	-2
Forest industry ^b	24,933	13,249	11,944	636	-734	-493	340	-94	76	9
Farmer	-15,891	-12,154	-1,603	-1,569	-1,507	442	279	191	25	5
Miscellaneous private	5,138	-3,401	5,705	1,488	955	113	326	-23	-38	13
All owners	11,958	-5,086	16,378	849	-1,408	10	1,049	76	65	25

^aOwnership class as of 1976

^bIncludes lands under long-term lease.

The decline in the number of 6-inch pines forebodes likely reductions in volumes in the larger diameter classes in future years as fewer trees are available to feed upward through the stand table. Fewer small trees and timber harvesting have already led to volume losses in the 6 through the 12-inch diameter classes on farmer-owned land. Boyce and Knight (1979) predicted a reduction in the number and volume of 6-inch pines from observed declines in the number of 2- and 4-inch pines between 1966 and 1976. In the interim-study area, the number of 2-inch pines dropped by 191 million trees, or by 25 percent, between 1966 and 1976, while the number of 4-inch pines fell by 9.3 million trees, or 2 percent, during the same period. These reduced numbers of 2- and 4-inch pines caused the reduction in number of 6-inch pines found in the interim survey. A volume loss for the 6-inch class will likely occur as the accumulation of trees in the upper end of that class moves into the 8-inch class.

Stand age profiles for pine forest types, by ownership class, provide further support for the observed changes in the 6-inch diameter class (fig. 3). Both the stand age and forest-type classifications are based on the 1976 data. The profile for forest industry lands shows that their pine stands were concentrated in the 0- to 9- and 10- to 19-year age classes. This accumulation of stands in the two youngest age classes accounts for the large increases in the number of 6- and 8-inch pine trees between 1976 and 1981. The development of these young pine stands, a large proportion of which are plantations, apparently fed large numbers of pine trees past the 5-inch threshold for ingrowth. Before 1976 fewer pine stands were feeding trees into the 6-inch class, as evidenced by the relatively small acreage in the 20- to 29-year age class.

The 1976 pine age profile for farms shows why numbers of 6-inch pines declined between 1976 and 1981. In 1976 the largest acreage of pine stands was in the 30- to 39-year age class, with somewhat less acreage in the 20- to 29-year class, and still less in the 10- to 19-year class. This depressed acreage of pine types in the 10- to 19-year age class compared to that in the next two older classes accounts for the large net loss of pine trees in the 6-inch diameter class on farmer-owned land. If we assume that the 0- to 9-year-old pine stands will be moving pine trees over the 5-inch threshold in the next 5 to 10 years, then some improvement may well be forthcoming. The acreage is 62 percent higher in this class than in the 10- to 19-year class. About 42 percent of the pine acreage in the 0- to 9-year class is in plantations.

The age profile for the miscellaneous private owners provides no clear explanation of the 6-percent reduction in number of 6-inch pines since 1976. The age structure is much more stable on this ownership in the earlier age classes. Pine plantations made up 57 percent of the acreage in the 0- to 9-year age class in 1976.

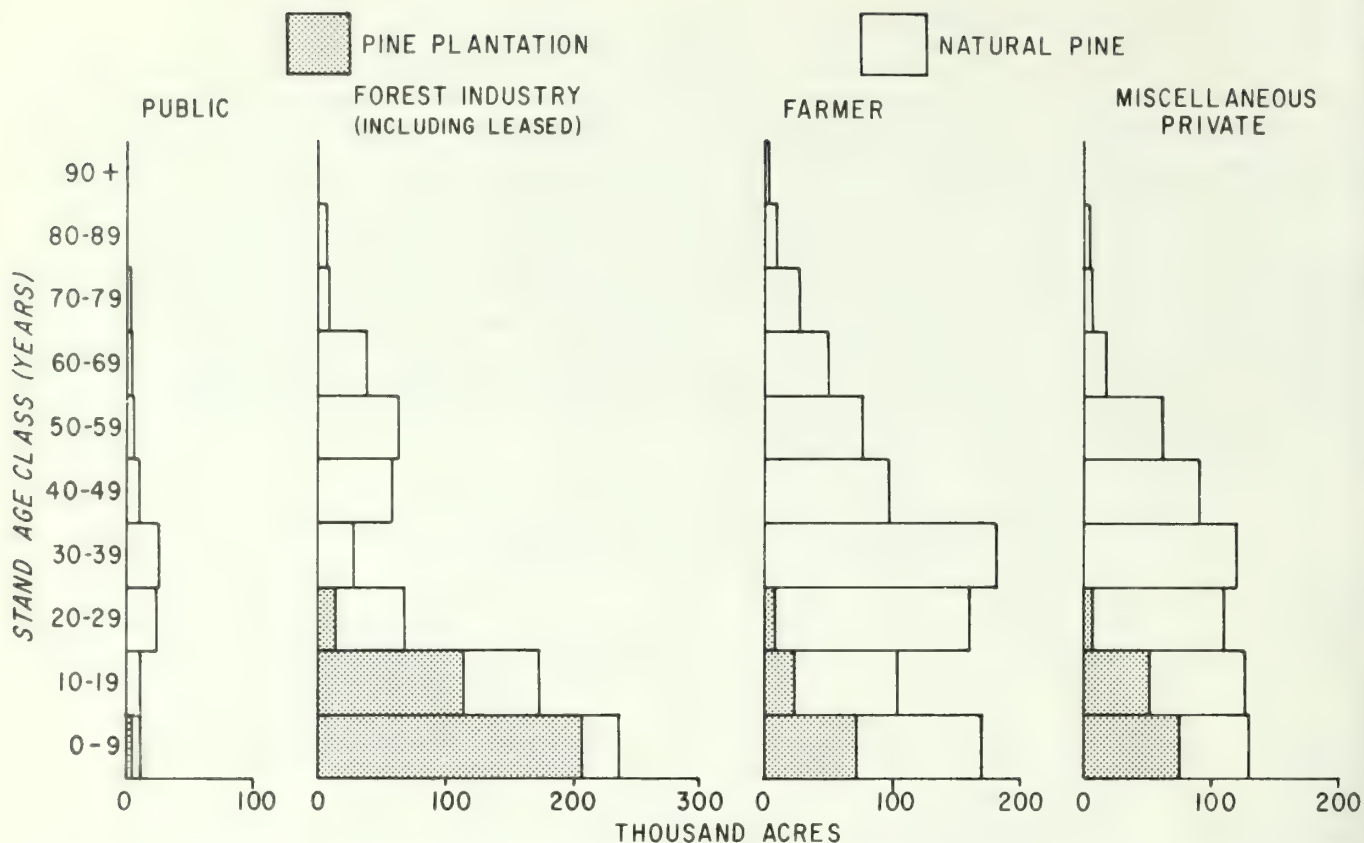


Figure 3.—Area of commercial forest land occupied by pine forest types, by stand age class, ownership class, and stand origin, Coastal Plain and Southern Piedmont of Virginia, 1976.

The profile for public forests is similar to that for farmers in that the acreage in the age classes likely to have contributed to the 6-inch class during the interim period is less than the acreage in the 20- to 29-year age class. However, no improvement in pine regeneration is evident in the 0- to 9-year class.

These age profiles point out the critical need to maintain stable regeneration programs over time. Lapses in pine regeneration, such as that indicated by the 10- to 19-year age class for farmers, will affect timber supplies in the decades that follow.

47 PERCENT OF PLANTING ON FARM WOODLANDS

About 19 percent of the commercial forest land containing pine in 1976 was treated or significantly disturbed since 1976 (table 7). Harvesting was the predominant treatment, occurring on 178 samples. About 53 percent of the harvest operations took place on forest lands owned by farmers in 1976, over 22 percent on forest industry lands, and 22 percent on miscellaneous private woodlands. Artificial regeneration occurred following the harvest operation on one-fourth of all harvested stands. Altogether, planting occurred on 47 sample locations. Almost 47 percent of the planting was on farm woodlands, 36 percent on forest industry lands, and 11 percent on miscellaneous private forest lands.

Natural disturbances caused significant damage on 35 samples. Insects and weather were the predominant damaging agents. Thinning and other intermediate cutting occurred on 25 samples. Since 1976, 41 of the revisited sample locations were cleared for nonforest land uses.

We must emphasize that the current stand history data cannot be directly compared to that from the last regular inventory because only a portion of all samples were remeasured. Therefore, a determination of trends in acreage harvested or planted is not possible.

The stand age classifications made in 1976 were used to evaluate the rates at which stands of varying ages were harvested. The number of sample locations harvested since 1976 in each stand age class of each broad forest type was determined. This number was divided by the number of remeasured sample plots in that age class and forest type to arrive at the rate of harvesting for the 5-year interim survey. Results for 20-year age classes are shown in table 8.

As expected, rates of harvesting were highest in the older age classes, particularly for natural pine stands. About 39 percent of the natural pine stands 60 to 79 years old in 1976 were harvested since then, and 50 percent of the natural pine stands 80 years and older were harvested. Due to their relatively low age, only 3 percent of the pine plantation plots were

Table 7.—Distribution of remeasured sample locations, by recent stand history and ownership class, Coastal Plain and Southern Piedmont of Virginia, 1981

Recent stand history ^a	All owners	Ownership class ^b			
		Public	Forest industry ^c	Farmer	Miscellaneous private
		----- <i>Number of samples</i> -----			
No significant treatment or disturbance	1,289	53	246	557	433
Harvesting with artificial regeneration	45	3	16	22	4
Other harvesting	133	2	24	72	35
Thinning or other intermediate cutting	25	2	7	10	6
Other artificial regeneration	2	--	1	--	1
Natural disturbance	35	2	5	19	9
Other miscellaneous treatments ^d	22	1	1	11	9
Diverted to other land use	41	1	--	21	19
Total	1,592	64	300	712	516

^aPrimary treatment or disturbance since 1976.

^bOwnership class as of 1976.

^cIncludes lands under long-term lease.

^dIncludes prescribed burning, grazing, drainage, site preparation, and other man-caused disturbances.

Table 8.—Percentage of remeasured samples harvested between 1976 and 1981, by stand age class and forest type, Coastal Plain and Southern Piedmont of Virginia

Stand age class (years)	All types	Broad forest types			
		Pine plantations	Natural pine	Oak- pine	Hardwood
----- <i>Percentage of plots</i> -----					
0-19	4	2	3	4	6
20-39	12	11	14	7	11
40-59	13	--	20	15	8
60-79	21	--	39	18	13
80+	18	--	50	14	13
No manageable stand	10	0	0	7	11
All classes	11	3	15	10	10

Stand age and forest type, 1976 classifications.

harvested. The harvesting rates for both oak-pine and hardwood stands were substantially lower than corresponding values for pine stands, particularly at the older age classes. Some trees have been harvested in about 7 percent of the oak-pine stands and in about 11 percent of the hardwood stands classified as not supporting a manageable stand in 1976. Since little volume was removed from these stands (table 9), the harvesting was likely used as some form of stand improvement. About 79 percent of the yellow pine volume removed during the interim period was cut from stands classified as pine types in 1976. Volumes in table 9 are for trees cut during thinning, stand improvement, and land-clearing operations, as well as final harvests.

Table 9.—Volume of yellow pine timber removed from commercial forest land, by stand age class and forest type, Coastal Plain and Southern Piedmont of Virginia, 1976 to 1981

Stand age class (years)	All types	Broad forest types			
		Pine plantations	Natural pine	Oak- pine	Hardwood
----- <i>Thousand cubic feet</i> -----					
0-19	48,845	29,648	12,568	2,961	3,668
20-39	190,760	6,099	152,664	19,327	12,670
40-59	274,602	--	220,995	35,821	17,786
60-79	158,234	--	123,147	16,718	18,369
80+	37,400	--	24,117	6,299	6,984
No manageable stand	14,721	1,073	317	6,317	7,014
All classes	724,562	36,820	533,808	87,443	66,491

Stand age and forest type, 1976 classifications.

STANDS NEEDING REGENERATION INCREASE

When a sample location showed evidence of significant treatment or disturbance since 1976, field crews assigned a new treatment opportunity code to describe the treatment needed to enhance timber growth. For sample locations not disturbed, the treatment opportunity assigned in 1976 was still assumed to be valid. This procedure resulted in a minimum of change in the number of samples needing various treatments (table 10). The most significant change by treatment opportunity was in the number of samples needing regeneration. In 1976, 128 of the remeasured samples needed regeneration compared to 205 in 1981. This increase occurred on all ownership classes.

Table 10.—Change in the number of samples, by treatment opportunity, ownership class, and year of inventory, Coastal Plain and Southern Piedmont of Virginia

Treatment opportunity	All ownerships		Ownership class ^a and year of inventory									
			Public		Forest industry ^b		Farmer		Misc. private individual		Misc. private corporate	
	1976	1981	1976	1981	1976	1981	1976	1981	1976	1981	1976	1981
----- <i>Number of samples</i> -----												
Immature stand in good condition	897	870	35	36	187	187	379	366	267	254	29	27
Merchantable stand damaged salvage	21	25	0	1	11	6	9	13	1	5	0	0
Mature stand ready for harvest	121	107	9	7	18	14	60	54	30	27	4	5
Commercial thinning	107	89	8	8	25	25	41	29	28	25	5	2
Precommercial thinning	20	17	0	0	10	9	6	5	4	3	0	0
Cleaning, release, or other stand improvement	112	102	3	2	24	22	47	41	34	33	4	4
Stand conversion	145	136	6	6	13	11	80	75	41	39	5	5
No manageable stand regeneration	128	205	2	3	12	26	69	108	40	59	5	9
Cleared to nonforest land use between 1976 and 1981	41	41	1	1	0	0	21	21	17	17	2	2
Total number of samples	1,592	1,592	64	64	300	300	712	712	462	462	54	54

^aOwnership class as of 1976

^bIncludes lands under long-term lease.

Most of the increase in regeneration opportunity resulted from timber harvesting. For instance, 93 of the 178 harvested sample stands (52 percent) were classified in the interim survey as needing regeneration. Many of these stands may have been in the 1- to 2-year delay period between harvest and planting operations. For a 5-year survey cycle, stands in this delay period make up a higher proportion of all harvested stands than for a 10-year cycle. Even so, there is an opportunity to increase pine regeneration on cutover forest lands. The poorly stocked forest land managed by forest industry will likely be regenerated, but the backlog of such conditions on nonindustrial private land leaves room for continued improvement.

SECTIONAL RESULTS

The interim survey study area is quite large and the forest resource within this area is diverse. These factors make it desirable to look at the results for smaller, more homogeneous areas. Three such areas were identified: (1) 12 Coastal Plain counties south of the James River; (2) 22 Coastal Plain counties north of the James River; and (3) the entire Southern Piedmont (fig. 4). A brief summary of the more important findings for each of these areas follows.

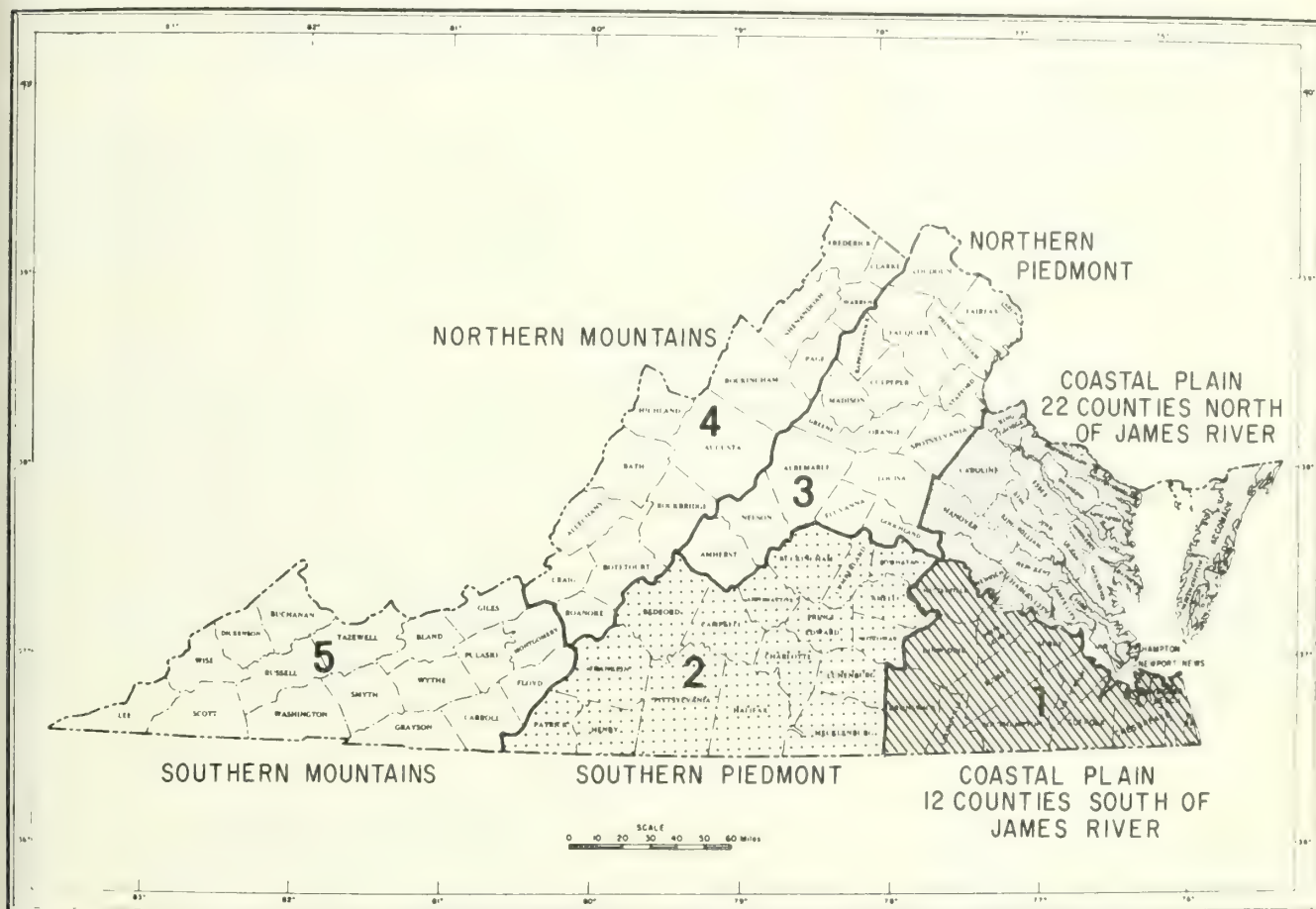


Figure 4.—Interim study area broken into three sections.

12 Coastal Plain Counties South of the James River

Commercial forests occupied 2.1 million acres in this area in 1976. Over 32 percent of the volume of yellow pine timber for the entire study area was located in these 12 counties in 1976. Almost 42 percent of the pine sawtimber was in these counties. Of the 1,592 sample locations remeasured, 509 were here. This area also has the highest concentration of forest industry ownership in the State; about 25 percent of the commercial forest here is owned by forest industry. Nonindustrial private owners control 73 percent of the commercial forest.

In this area, pine volume dropped by nearly 2 percent since 1976. Pine sawtimber volume decreased by 4 percent. Loblolly pine, the dominant species with 93 percent of the volume, changed little in cubic volume since 1976. The loblolly sawtimber inventory declined by over 2 percent. Both the cubic- and board-foot volumes of shortleaf pine dropped by 30 percent since 1976. Pine volume losses were recorded in the 10-, 12-, 14-, and 18-inch diameter classes. One positive finding was a 4.4 million tree increase (10 percent) in the 6-inch diameter class.

22 Coastal Plain Counties North of the James River

Commercial forests covered 1.9 million acres in this area in 1976. About 31 percent of the pine cubic volume in the interim study area was located in these 22 counties, 33 percent of the pine sawtimber volume was located here. Forest industries own only 13 percent of the commercial forests in this area, while nonindustrial private owners control nearly 82 percent. During the interim survey, 476 sample locations were remeasured in these 22 counties.

The volume of all pine timber in this area increased by 6 percent, and pine sawtimber volume increased by 8 percent since 1976. Loblolly pine and Virginia pine make up 99 percent of the inventory and both increased in volume by almost 7 percent since 1976. The 6- and 12-inch diameter classes were the only two diameter classes to show volume losses. This 22-county area accounted for all the net loss in the number of 6-inch pines for the interim study area. The number of 6-inch pines plummeted by 11.9 million trees, or by 20 percent, since 1976. Rather large losses in the number of 2- and 4-inch pines between 1966 and 1976 led to the loss of 6-inch pine trees.

Southern Piedmont

Commercial forests occupied 3.8 million acres in the Southern Piedmont in 1976. This region contained 37 percent of the pine cubic volume for the entire study area. Only 25 percent of the pine sawtimber was in the Southern Piedmont. Forest industry controlled 15 percent of the commercial forests and nonindustrial private owners over 81 percent. In this area, 607 sample locations were remeasured during the interim survey.

Pine cubic and sawtimber inventories increased by 7 percent in the Southern Piedmont since 1976. Loblolly pine accounted for all the gain in cubic volume and now makes up 23 percent of the pine inventory. Volume of Virginia pine, with 47 percent of the inventory, remained about the same. Shortleaf pine, with 29 percent of the inventory, decreased in volume by 5 percent. For the sawtimber portion of the inventory all the major yellow pine species increased in volume. The volume increase in this region occurred in every diameter class except 20 inches, in which an 11 percent decline occurred. The number of 6-inch pines continued to increase but at a slower rate than in 1976.

SUMMARY

Findings of the interim survey are somewhat mixed. For the study area as a whole, volumes are up since 1976, but volumes declined in some localized areas. Net growth is also up slightly. Average annual removals for the 5-year period are down from the average for the period between 1966 and 1976. On the negative side, inadequate pine regeneration in past years has now led to fewer trees in the 6-inch diameter class. This problem occurred on all except industry forests and was especially severe on farm forests. Regionally, much of this loss in number of 6-inch pines occurred in a 22-county area in the Coastal Plain north of the James River.

Since the interim survey is not a complete inventory and does not provide an estimate of the number of 2- and 4-inch pines, we cannot assess the present pine regeneration situation. But the results of the interim survey, taken in light of the pine regeneration problems identified during the 1976 inventory, lead one to conclude that continued and possibly strengthened emphasis must be put on adequate pine regeneration following timber harvests. Virginia's future timber supplies depend on it.

LITERATURE CITED

Boyce, Stephen G., and Herbert A. Knight.

1979. Prospective ingrowth of southern pine beyond 1980. U.S. Dep. Agric. For. Serv., Res. Pap. SE-200, 50 p. Southeast. For. Exp. Stn., Asheville, N.C.

Cost, Noel D.

1976. Forest statistics for the Coastal Plain of Virginia, 1976. U.S. Dep. Agric. For. Serv., Resour. Bull. SE-34, 33 p. Southeast. For. Exp. Stn., Asheville, N.C.

Sheffield, Raymond M.

1976. Forest statistics for the Southern Piedmont of Virginia, 1976. U.S. Dep. Agric. For. Serv., Resour. Bull. SE-35, 33 p. Southeast. For. Exp. Stn., Asheville, N.C.

Sheffield, Raymond M.

1978. Coastal Virginia's timber resource: trends, present conditions, and opportunities for improvement. U.S. Dep. Agric. For. Serv., Resour. Bull. SE-43, 24 p. Southeast. For. Exp. Stn., Asheville, N.C.

Welch, Richard L., and Thomas R. Bellamy.

1980. Changes in output of industrial timber products in Virginia, 1976-1978. U.S. Dep. Agric. For. Serv., Resour. Bull. SE-54, 21 p. Southeast. For. Exp. Stn., Asheville, N.C.

Welch, Richard L., and Robert A. Cathey.

1976. Sampling and analytical techniques for an interim survey in the South Carolina Lowcountry. U.S. Dep. Agric. For. Serv., Res. Pap. SE-154, 8 p. Southeast. For. Exp. Stn., Asheville, N.C.



The Forest Service, U.S. Department of Agriculture, is dedicated to the principle of multiple use management of the Nation's forest resources for sustained yields of wood, water, forage, wildlife, and recreation. Through forestry research, cooperation with the States and private forest owners, and management of the National Forests and National Grasslands, it strives—as directed by Congress—to provide increasingly greater service to a growing Nation.

USDA policy does not permit discrimination because of race, color, national origin, sex or religion. Any person who believes he or she has been discriminated against in any USDA-related activity should write immediately to the Secretary of Agriculture, Washington, D.C. 20250.

